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319-CD-006-001

## **EOSDIS Core System Project**

# **Release B System and Segment Integration and Test Plan for the ECS Project**

October 1995

Hughes Information Technology Corporation  
Upper Marlboro, Maryland

# **Release B System and Segment Integration and Test Plan for the ECS Project**

**October 1995**

Prepared Under Contract NAS5-60000  
CDRL Items 054, 064

## **SUBMITTED BY**

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# Preface

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This document, intended as a final submittal, is a formal contract deliverable with an approval code 1. It requires Government review and approval prior to acceptance and use. This document is under ECS contractor configuration control. Once this document is approved, Contractor approved changes are handled in accordance with Class I and Class II change control requirements described in the EOS Configuration Management Plan, and changes to this document shall be made by document change notice (DCN) or by complete revision.

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# Abstract

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The System/Segments Integration and Test Plan satisfies the requirements for CDRL Items 064, DID 402/VE1 (System/Segments Integration and Test Plan) and 054, DID 319/DV1 (Segment Integration and Test Plan), as specified in the Statement of Work, as deliverable under the Earth Observing System Data and Information System (EOSDIS) Core System (ECS), Contract NAS5-60000.

This document specifies the System/Segments Integration and Test Plan (B) for the Science Data Processing Segment (SDPS), Flight Operations Segment (FOS) and Communication and System Management Segment (CSMS) of the ECS Project.

**Keywords:** System/Segments Integration, Segment Integration, System Integration, Test, I&T, Build, Thread, Release B, SDPS, CSMS, ECS

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## **Appendix B. Requirements Traceability Matrix**

## **Appendix C Regression/Recombinant Test and Methodology**

## **Appendix D Acronyms**

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# 1. Introduction

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## 1.1 Identification

The System/Segments Integration and Test Plan satisfies the requirements for CDRL Items 064, DID 402/VE1 (System/Segments Integration and Test Plan) and 054, DID 319/DV1 (Segment Integration and Test Plan), as specified in the Statement of Work, as deliverable under the Earth Observing System Data and Information System (EOSDIS) Core System (ECS), Contract NAS5-60000.

## 1.2 Scope

The ECS System/Segments Integration and Test Plan (SITP) for Release B defines the plan for integration, test, and verification of ECS Configuration Items, and verifies that ECS complies with the Functional and Performance Requirements Specification (F&PRS), Interface Requirements Documents (IRDs), Level 3 functional requirements (system), Level 4 functional requirements (segment), and the ECS design specifications. The roles and activities of the System/Segments Integration and Test (SI&T) Organization are described and schedules for performing Release B activities are provided. There is a separate test plan for the Flight Operations Segment (FOS). Changes and additions to spacecraft and instruments for release B will be incorporated in later versions of this document.

## 1.3 Purpose

The ECS System/Segments Integration and Test Plan (SITP), for Release B, documents tests, test methodology, schedules, dependencies, and the thread/build plan. This document presents the overall objectives/descriptions for the thread/build plans based on the level 3 and level 4 requirements for Science Data Processing Segment (SDPS) and Communications and Systems Management Segment (CSMS). This test plan provides the functions and capabilities to be verified for release B, and is later used to prepare test procedures which provide more detailed instructions for verifying requirements. Flight Operations Segment (FOS) will provide a separate I&T plan.

## 1.4 Status and Schedule

This version of the ECS Release B System/Segments Integration and Test Plan is due two weeks prior to Initial Design Review (IDR). As an approval code 1 document, it requires government approval prior to acceptance and use. This submittal represents the test objectives/descriptions, test configuration, inputs, outputs, and success criteria for thread and build test cases for the DID 402/319 documents and is delivered at Release B IDR. Test databases, data and test tools needed for each test are identified.

Submittal of this document meets the milestone for IDR. Subsequent changes to the document will be incorporated into a resubmittal according to a schedule mutually agreed to between Goddard Space Flight Center (GSFC) and ECS.

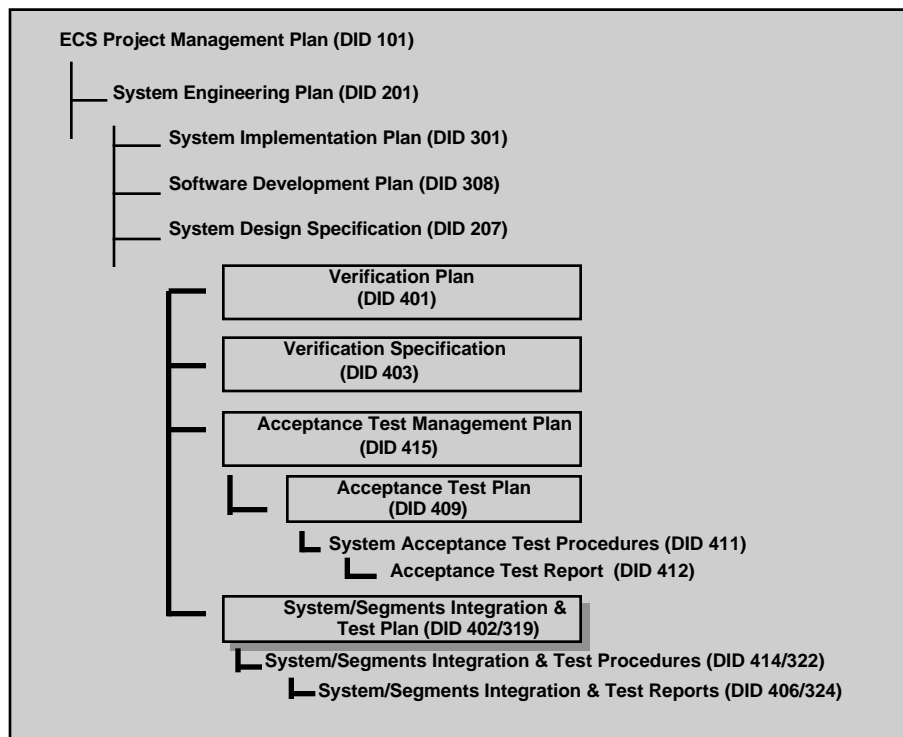
## **1.5 Document Organization**

This document is organized into 5 sections and 4 appendices:

- Section 1 Introduction, contains the identification, scope, purpose and objectives, status and schedule, and document organization.
- Section 2 Related Documents, provides a bibliography of parent, applicable and reference documents for the Release B System/Segments Integration and Test Plan Document.
- Section 3 System/Segments Integration and Test Overview, describes the process used to integrate and test segments, and subsystem interfaces.
- Section 4 Release A System/Segments Integration and Testing, defines the corresponding supporting document which contains the A system level thread and build tests.
- Section 5 Release B System/Segments Integration and Testing, describes the specific system/segments level thread and build tests, which will be used to verify the functionality of Release B.
- Appendix A Test Tools Requirements, contains a list and brief description of the test tools needed for System/Segments Integration and Test.
- Appendix B Verification Traceability Matrix, contains the requirements traceability matrix, mapping test cases to Level 4 requirements.
- Appendix C Regression test and methodology.
- Appendix D Acronyms, contains a list of acronyms included in this document.

## 2. Related Documentation

Figure 2-1 illustrates the relationship of the System/Segments Integration and Test Plan (SITP) to other ECS documents. This document is a follow-on to the System Integration and Segments Test Plans for releases IR-1 and A. The System/Segments Integration and Test Plan tests the Level 3 release by requirements, and Level 4 functional requirements.



**Figure 2-1. System/Segments Integration & Test Document Relationships**

### 2.1 Parent Documents

The parent document is the document from which this System/Segments Integration and Test Plan (B) scope and content are derived.

101-110-MG2-001      Project Management Plan for the ECS Project

101-201-SE1-001      Systems Engineering Plan for the ECS Project

107-CD-001-007	Level 1 Master Schedule for the ECS Project
194-401-VE1-002	Verification Plan for the ECS Project
194-501-PA1-001	Performance Assurance Requirements for the EOSDIS Core System (ECS)
402-CD-001-002	System Integration and Test Plan for ECS Project for Interim Release 1
402-CD-002-002	System Integration and Test Plan for ECS Project for Release A
423-41-01	Goddard Space Flight Center, EOSDIS Core System (ECS) Statement of Work
423-41-03	Goddard Space Flight Center, EOSDIS Core System (ECS) Contract Data Requirements List Document

## 2.2 Applicable Documents

The following documents are referenced within this System/Segments Integration and Test Plan (B), or are directly applicable, or contain policies or other directive matters that are binding upon the content of this volume.

194-201-SE1-001	Systems Engineering Plan for the ECS Project
194-207-SE1-001	System Design Specification for the ECS Project
301-CD-002-003	System Implementation Plan for the ECS Project
304-CD-005-001	Rel B SDPS/CSMS System Requirements Specification for the ECS Project
305-CD-020-001	Release B SDPS/CSMS Design Overview for the ECS Project
305-CD-021-001	ReleaseB SDPS Client Subsystem Design Specification for the ECS Project
305-CD-022-001	Release B SDPS Interoperability Subsystem Design Specification for the ECS Project
305-CD-023-001	Release B SDPS Data Management Subsystem Design Specification for the ECS Project
305-CD-024-001	Release B SDPS Data Server Subsystem Design Specification for the ECS Project
305-CD-025-001	Release B SDPS Ingest Subsystem Design Specification for the ECS Project
305-CD-026-001	Release B SDPS Planning Subsystem Design Specification for the ECS Project

305-CD-027-001	Release B SDPS Data Processing Subsystem Design Specification for the ECS Project
305-CD-028-001	Release B Communications Subsystem Design Specification for the ECS Project
305-CD-029-001	Release B CSMS System Management Subsys Design Specification for the ECS Project
305-CD-030-001	Release B GSFC DAAC Design Specification for the ECS Project
305-CD-031-001	Release B LaRC DAAC Design Specification for the ECS Project
305-CD-032-001	Release B MSFC DAAC Design Specification for the ECS Project
305-CD-033-001	Release B EDC DAAC Design Specification for the ECS Project
305-CD-034-001	Release B ASF DAAC Design Specification for the ECS Project
305-CD-035-001	Release B NSIDC DAAC Design Specification for the ECS Project
305-CD-036-001	Release B JPL DAAC Design Specification for the ECS Project
305-CD-037-001	Release B ORNL DAAC Design Specification for the ECS Project
305-CD-038-001	Release B System Monitoring and Coordination Center Design Specification for the ECS Project
305-CD-039-001	Release B Data Dictionary for the ECS Project Subsystem Design Spec
307-CD-004-001 329-CD-004-001	Release B SDPS Development and Release Plans for the ECS Project
307-CD-005-001 329-CD-005-001	Release B CSMS Development and Release Plans for the ECS Project
403-CD-002-001	Release B Verification Specification for the ECS Project
194-501-PA1-001	Performance Assurance Implementation Plan (PAIP) for the ECS Project
604-CD-002-002	Operations Concept for the ECS Project: Part 2B -- ECS Release B
222-WP-002-001	Release B Interface Requirements Analysis, White Paper
423-41-02	Goddard Space Flight Center, Functional and Performance Requirements Specification [F&PRS] for the Earth Observing System Data and Information System (EOSDIS) Core System
505-41-13	Goddard Space Flight Center, Interface Requirements Document between Earth Observing System Data and Information System (EOSDIS) and the Landsat 7 System

## 2.3 Information Documents

The following documents although not referenced herein and/or not directly applicable, do amplify or clarify the information presented in this document. These contents are not binding on the content of the System/Segments Integration and Test Plan of Release B for the ECS Project.

194-102-MG1-001	Configuration Management Plan for the ECS Project
193-103-MG3-001	Configuration Management Procedures for the ECS Project
311-CD-008-001	Release B SDPS/CSMS Database Design and Database Schema for the ECS Project
313-CD-006-001	Release B SDPS/CSMS Internal Interface Control Document for the ECS Project
409-CD-002-001	Release B Overall System Acceptance Test Plan for the ECS Project
194-WP-904-002	Multi-Track Development for the ECS Project, White paper
160-TP-002-001	Version 1 Data Migration Plan for the ECS Project
222-TP-003-008	Release Plan Content Description for the ECS Project

## 3. System/Segments Integration and Test Overview

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This section defines the process used for integrating and verifying the ECS at the system and segment level as defined by the Functional & Performance Requirements (Level 3 Requirement) and Interface Requirements Documents (IRD).

The following subsections define the System/Segments Integration & Test process from three perspectives. First, the test methodology is described (Section 3.1). Second, the test process used to plan I&T tasks (Section 3.2). Third, the day-to-day management of System/Segments Integration Testing is described in order to highlight the controls applied to the process (Section 3.3).

The processes described will be performed by the Integration and Test Team (I&TT) within the ECS contractor Science and Communications Development Office. Supporting this effort are the development segments, the Quality Office, the Configuration and Data Management Department, and the ECS Project Independent Acceptance Test Organization (IATO).

Oversight of the System/Segments Integration and Test effort is provided by representatives of the Code 505 Integration and Operations office, the IV&V contractor and the IATO.

### 3.1 System Build/Thread Test Methodology

This section contains an overview of the approach taken by the System/Segments Integration and Test organization to ensure complete and thorough testing as defined by the Functional and Performance Requirements (Level 3), Release B SDPS/CSMS System Requirements Specification for the ECS Project (Level 4), and Interface Requirements Documents. Included is information concerning the I&T environment, schedules and verification activities and responsibilities.

I&T will accept, integrate, and test software components upon completion of unit testing. Components are integrated into segment subsystems. Segment subsystems undergo complete and thorough testing of the software via threads. Recording and reporting of problems encountered during testing is performed. Integrated software units are tested against level 4 requirements.

I&T will integrate "threads" into "builds" comprising segment functions. The build/thread methodology relies heavily on the concept of a "thread" - the set of operational procedures, computer software configuration item interfaces, software, and hardware that implement a function. Threads are tested individually to facilitate requirements verification and to simplify problem resolution. Builds are tested to ensure Level 3 requirements, segment interfaces, and functionality across Computer Software Configuration Items (CSCIs) are verified.

The decomposition of release capabilities into threads allows flexible scheduling of development and testing. Scheduling is influenced by considerations such as:

- **Thread Dependencies.** For example, basic communication services will be used in most threads. By integrating communications services first, communication protocols are readily available and tested for all subsequent threads. This also eliminates repetitive use of a communications simulator and reduces test tool costs. By this mechanism, critical core components are thoroughly exercised.
- **Level of Development Complexity.** A thread that requires many custom components may be scheduled late to ensure adequate development time. Threads that contain a significant amount of COTS will be integrated early while development is in progress. This allows more parallelism in the development and integration process.
- **Contingency Management.** If unforeseen problems arise, threads and builds can often be re-arranged so that overall progress continues.

Threads are allocated to releases. Each thread is fully tested in a release, so if only partial capabilities of a function are delivered in a release, the full functional capabilities will be tested by appropriate threads developed across all releases.

Successfully integrated components (incl. software, hardware, and data) that make up a thread are merged with other threads in a gradual buildup of system capabilities - a build. Build tests verify newly available functions in their expanded environment. Regression tests confirm that newly combined functions do not degrade previously integrated components.

Groups of builds are, in turn combined to form larger builds until the complete release has been integrated. The final build test consists of end-to-end activities that, while still functionally oriented, are similar in context to actual operational scenarios.

## **3.2 ECS System Test Planning**

The thread/build concept, which is based on the incremental aggregation of functions, is used to plan I&T activities. A thread is a set of components (software, hardware and data) and operational procedures that implement a set of related functions at the segment level. Threads are tested individually to facilitate Level 4 requirements verification and to isolate software problems. A build is an assemblage of threads or a gradual buildup of system capabilities. This orderly progression of combining software and/or hardware items to form higher level items which interface to provide broader capabilities is the basis of System/Segments Integration. Builds are combined with other builds and threads to produce higher level builds. Verification of threads and builds is accomplished at progressively higher and higher levels as software is assembled for each release.

Thread/build diagrams are developed for each Release. The thread/build diagram for Release B is presented in Figure 5-1.

### 3.2.1 Thread/Build History

Initial Thread/Build design began with participation in the formulation of the Release Plan Content Description. During this process external mission drivers were examined in order to understand the minimal functionality that had to be present for IR1, Rel A, B, C, and D. This process was iterative in that more information became available with the passage of time. Additionally, initial "cuts" at functionality provided vehicles for better communication, and hence, understanding of the relationship of mission drivers. Coincident with the development of the Release Plan, a concerted requirements analysis and allocation effort was undertaken giving the test team a refreshed look at the requirements baseline. Coincident with this effort the system engineering group began producing white papers explaining the new ECS architecture. These progressed into the individual Logical Object Models (LOMs) which describe the allocation of services at the logical level.

### 3.2.2 Thread/Build Analysis

Threads and builds are defined by examining operational concepts, Level 3 and Level 4 requirements and system design specifications. Threads are combined to define builds. Builds include several integrated thread/build functions to form a system scenario. The thread/build diagram for each release acts as the basis for definition of test cases. Test cases are developed based on the build/thread diagram. These test cases provide the basis for development of detailed build and thread test procedures.

Initial threads are formulated based on functions defined in the Release Plan Content Description. Initial aggregations of threads into builds were made and reviewed with representatives from the development organizations.

Descriptions of the threads and builds were written and are a fundamental part of the engineering process. Each thread and build is enhanced by the detailed description of the test flows. Depending on the size of a thread, multiple test *sequences* within a thread may be created. Sequences serve to enhance management of the testing activity by dividing the effort into smaller tasks that can be prepared and executed independently.

### 3.2.3 Test Threads

Given increasing levels of design details, better knowledge of the interfaces between components and segments is available. This allows individual threads to be assessed for standalone testing. If a thread is found to have unexpected dependencies which cannot be met, two options exist. First, restructure a portion of the build/thread plan, this can often be performed with minor impact to the overall effort. Second, provide test tools (stubs or drivers) to meet thread dependencies.

Since a thread, or a sequence within a thread, defines a set of actions to be performed to evoke a desired response, the next step in the detailed planning process is to determine the range of test values to be used to exercise the function. A set of inputs is chosen to assess functionality. This is supplemented by minimum and maximum values of the acceptable range and values outside of the acceptable range. For each set of input conditions, a set of output results is expected. The pairing of a set of inputs and outputs to be applied to a thread or sequence are considered to be a

*test case*. Sufficient test cases are formulated to verify a level of correctness commensurate with the criticality of the function under test.

The plan will be submitted for PDR/IDR. With this, the test planning phase is completed and the generation of test procedures (step by step instructions) begins.

### **3.2.4 Test Procedures**

The next stage in the test process is the generation of detailed test procedures (DID 414/VE1 and DID 322/DV3)) based on the plan. The IDR version of the plan essentially forms an outline for the test procedures. The test procedures are a step-by-step set of instructions for the actual execution of the testing required to integrate and verify the thread. Additionally, the procedure has a concise definition of the test environment for the activity. Like the test plan, the procedures are developed in stages as more and more information becomes available during the development life cycle. Before code first becomes available after CDR, detailed design information and initial user manuals are used to begin the procedures. Another key activity during this period is the development of test tools and the collection/production of test data.

As software becomes available, initial procedures are checked out by executing test against the system software. Execution of procedures attempts to exercise the system and procedures. Problems that occur can be the result of either errors in the procedures or errors in the product. The test team members work with developers to investigate problems and find resolutions. This cooperative process continues until the discrepancy rate moderates and there is confidence that the procedures are correct. The test procedures are made available at this point in the process.

### **3.2.5 Test Conduct**

After the test procedures are made available, test begins. Test conduct is the execution of the test procedures against a software baseline that is under configuration control. The goal of test conduct is the verification of requirements through successful execution of the test. During this time, portions of test procedures may be executed out of sequence to concentrate on particular parts of the system. Test conduct continues until all parts of all test procedures have been successfully executed.

Test conduct culminates with the formal execution of the test procedures before appropriate witnesses. Mandatory witnesses include representatives of the Quality Office, ECS Project Management and ESDIS Integration Office. As always, the authority to witness may be delegated or waived on a case-by-case basis.

### **3.2.6 Consent-To-Ship Review**

At the completion of the formal execution of the System/Segments Integration Test, a Consent to Ship Review (CSR) is held. As with all test reviews the CSR serves two purposes. First, it determines if I&T has completed successfully. Second, it assesses whether the next activity, Acceptance Test, may begin. The CSR is a formal meeting chaired by the Test Lead at which the following are presented:

- Initial Test Results - Based on a quick-look analysis of test data the outcome of the testing is presented.
- Deviations from Test Procedures - If during the demonstration, any deviations from the printed procedures were necessary, they are explained and discussed to establish that they did not invalidate the test execution.
- Non-conformance Report (NCR) Status - The status of all open NCRs is presented along with recommendations for their disposition.
- Configuration Management Status - The CM organization reports on the status of the product baseline.
- Recommendation - Based on the previously presented material the Test Lead recommends the acceptance/rejection of the system release.

### 3.3 Controlled Environment Testing

This section discusses the basic, day-to-day management of the verification process. The fundamental steps to be described here are performed during test preparation, conduct and the formal demonstration. As the test progresses and matures, the degree of formality and the frequency of process checks increases to insure timely completion and thorough testing. For the sake of this presentation, the activities of a theoretical "day" of testing is described. It should be noted that this "day" is not necessarily an actual calendar day. During the preparation phase the unit of management might be a week, while during the formal demonstration it might actually be a day or even part of day.

A testing session begins with a pre-test meeting at which the planned activities are discussed, assignments are made and the configuration for the test environment specified. The readiness of the environment to support the activity is assessed. Other than during critical times and during the formal demonstration, the pre-test meeting is held as the last part of the previous sessions post-test meeting.

The key to effective testing is to document the following:

- Capture the state of the product under test (e.g. version numbers, concurrent activities).
- Capture the chronology of actions - without this, reported problems cannot be recreated and understood to allow correction.
- Provide an audit trail - this allows verification of coverage and collection/analysis of metrics.

At a minimum this information will be captured in individual test logs. Correlation of widely dispersed events will be especially difficult because the ECS is a widely distributed system. Development of on-line tools are being considered to supplement hard copy notebooks and to allow easier time correlation and collaborative testing. Extensions to public domain products like National Center for Super computer Applications (NCSA) Collage may be feasible.

### 3.3.1 Non-Conformance Reporting

Control of the test environment is crucial to the test process. Included are software, hardware and "user/operational" environments. Software and hardware states are tracked and controlled by the configuration management software tool. During testing, the Test Lead is delegated authority from the Configuration Control Board to manage the test environment. An area of difficulty in the distributed environment is the control of the user/operational environment. During development and the early phases of test preparation, test and development will share the same hardware and system software environments which may impact performance. This will be handled through close coordination with development. During the later stages of testing, the environment will be controlled by test users, through strict access controls managed by the Test Lead.

System/Segments Integration Testing maintains its own list of Non-conformance Reports (NCRs) within the Non-conformance Reporting and Corrective Action System (NCRCA). This list covers problems that occur during the time the product under test is controlled by I&T. The NCRCA system also supports the collection of metrics which will be analyzed by test and the Quality Office.

I&T will enter problems into the NCRCA system. A report is required for any non-compliance to Level 3 and Level 4 requirements encountered during test. It is the responsibility of the I&T organization to ensure all testers are trained and have authority to use the NCRCA system. The NCRCA administrator will detect invariably duplicate and erroneous problems entered into the system and close them. It is however, the responsibility of each tester to properly enter all discrepancies in an accurate and timely manner. Once a discrepancy is corrected, regression testing is done to ensure no new problems have been introduced.

At the end of each test "day", a post test meeting is held by the Test Lead. Attending are test team members, development support personnel and Quality Office representatives. The purpose of the meeting is to assess progress, plan future activities and review the status of NCRs. This review includes:

- New NCRs - Each new NCR is presented (usually by the author). The problem encountered is described along with the author's recommendation for priority. The Test Lead assesses the NCR and assigns a disposition. Most often at this stage in the process the problem is assigned to a development representative for further investigation. The Test Lead assigns a priority.
- Open NCR Status - Status is sought on open NCRs. The developer support returns information of the problems that are being fixed in support of the testing. When a fix is completed, it is reported and the status of the NCR updated to "Resolved". Before the NCR may be closed, two important things must happen. First, the fix is incorporated into the test baseline via the configuration management software tool. On a case-by-case basis, proposed fixes are considered for priority and impact on the test to determine the strategy for their inclusion. Some fixes are held until a related group is ready, others may be incorporated individually. Second, once the fix has been installed into the test baseline a test team member must verify the fix (usually by re-executing the procedures (steps) described in the NCR)). If this testing is successful, the NCR is closed by the Test Lead.

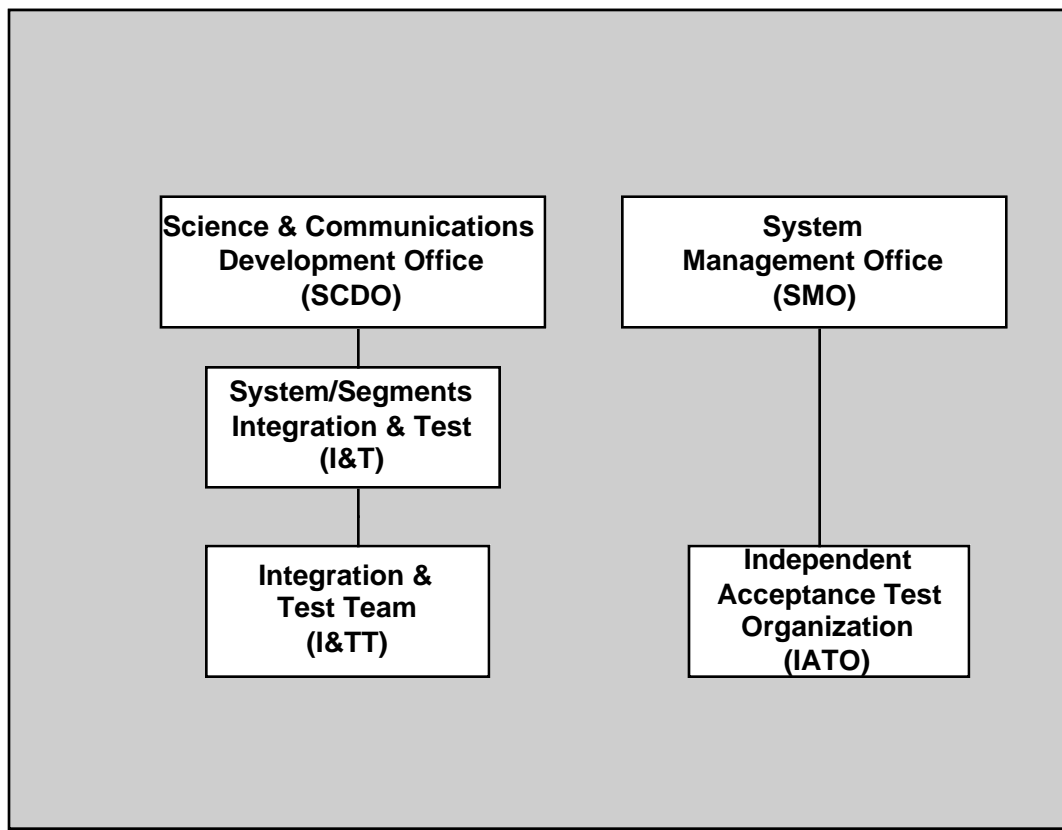
## 3.4 Roles and Responsibilities

This section describes the responsibilities of different organizations in the integration and verification of the ECS, and the test roles and positions of individuals within the test organization.

### 3.4.1 System/Segments Integration and Test

The System/Segments Integration and Test (I&T) organization (figure 3-1) is part of the Science and Communications Development Office. The Integration and Test Team (I&TT) is primarily responsible for the ECS System/Segments integration and verification. Upon successful completion of testing, the I&TT will hold Consent to Ship Review (CSR) for delivering the software to the Independent Acceptance Test Organization (IATO); reference ECS Configuration Management Plan and Procedures for implementation procedures. See table 3-1 for the Configuration Controlled Software Baselines.

The IATO is primarily responsible for the systems acceptance testing, which occurs subsequent to the System/Segments Integration and test activities. Implied in this responsibility is the installation of the releases at the remote sites. Support for the Independent Verification & Validation (IV&V) contractor is managed via the IATO.



**Figure 3-1. Test Organizational Chart**

**Table 3-1. Configuration Controlled Software Baselines for Test Program**

Test Level	Performed By	Documented In	Code Location	Completion Event
Unit	Developer	Unit Dev. Folder	Developer's Files	Test Readiness Review
System/Segments I&T	SI&P - I&T	Sys/Seg I&T Plan (DID 402, 319) Verification Spec (DID 403)	System CM Library	Element Test Review Consent to Ship Review
Acceptance Test	IATO	Acceptance Test Plan (DID 409)	IATO Library at Sites	Release Readiness Rev.
System	IV&V	TBD	M&O Library at Sites	TBD

### **3.4.2 Configuration Management**

All deliverable application software and software test tools will be controlled via the ECS Configuration Management Tool which is administered and controlled by the Configuration Management Organization. During the development process the CM organization provides the software library function. The SW product moves from development, to System/Segments I&T and ultimately to Acceptance testing, via the CM tool. The control authority over the baseline is delegated to the appropriate individuals during the process. The Test Lead has authority to control changes to the CM baseline under test. Test Procedures and data used during the test will also be baselined and controlled.

### **3.4.3 Quality Assurance**

A Non-conformance Reporting and Corrective Action (NCRCA) system managed by the Quality Assurance Office is used to control discrepancies identified in both documentation and software. A Non-Conformance Report (NCR), is used for any departure from design, performance, testing or handling requirements that affects hardware, software or documentation. The process for Non-conformance Reporting was described in Section 3.3.

The Quality Office oversees many facets of the testing process through inspections of work in progress. At formal demonstrations the Quality Office witnesses the test activities to insure compliance with written procedures. Quality Office responsibilities are described in the Performance Assurance Implementation Plan (PAIP), 194-501-PA1-001.

### **3.4.4 I & TT Roles**

The I&TT roles include the following test positions and their corresponding responsibilities.

Test Conductor - This will include a member to conduct test execution. This person is responsible for establishing a sound test configuration before testing takes place. This person is also responsible for collecting test outputs and recording test results. Any problems encountered during testing are entered into the NCRCA System by the test conductor .

Test Participants - This will include members of the segment development organization to perform software integration and support test execution. Other supporting organizations include

Maintenance and Operations (M&O) and Configuration and Data Management. The ECS maintenance and operations organization will support the test members in the installation and configuration of the test environment and will support the test team if any system faults are encountered during testing. This would include such instances as computer software or hardware failures which cause the test configuration to be corrupted. M&O will be responsible for re-configuring the system as needed to continue testing. CM will provide a controlled environment for the storing and maintaining of information about the test environment including hardware, software and test tool environments. CM also stores and catalogs test input data and output data.

Test Witnesses - Individuals invited to directly observe test conduct. This includes members from the System/Segments I&T organization and the IATO as appropriate in support of I&T and IATO testing. ESDIS and IV&V personnel are also invited to witness system test demonstrations.

Test Monitors - The Quality Assurance organization is responsible for reviewing test data, materials, and documentation. These individuals need not be present during test conduct.

### 3.5 Schedules and Dependencies

Documentation vehicles, such as the ECS Intermediate Logic Network, that are regularly released will be used as the vehicle to disseminate current schedules.

#### 3.5.1 Release Schedule

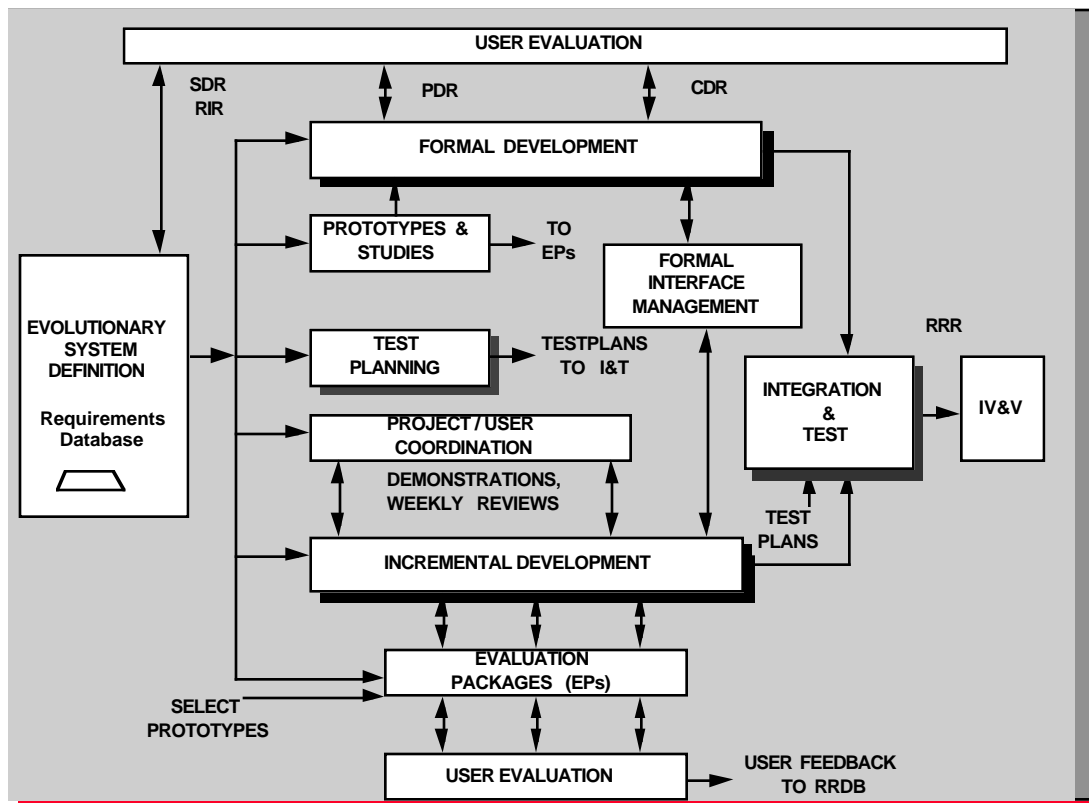
The following (Table 3-2) shows I&T activity across all ECS Releases. Only formal reviews are shown. Program releases are indicated in the left most column of the chart. Program milestones are indicated across the top of the chart. For each release, I&T activities performed for each milestone are indicated. Dates for the milestones can be found in the Level 1 Master Schedule for the ECS Project (194-107-MG1-010).

**Table 3-2. I&T Release B Schedule**

Release	RIR	IDR	CDR	TRR	ETR	CSR
B	produce working paper Release B I&T Plan (DID 402)	produce Release B I&T Plan (DID 319/402)	produce Release B I&T Procedures (DID 322/414)	produce final Release B I&T Procedures (DID 322/414)	conduct a final ETR for entire Release B	Release B I&T Reports (DID 324/406)

### 3.6 System/Segments I&T in a Multi-Track Environment

For a specific release, two main development processes will be used. The Formal Development Process and the Incremental Development Process described in the Multi-Track Development White paper. Figure 3-2 shows the flow between the two processes.



**Figure 3-2. System/Segments I&T and Multi-Track Environment**

Both formal and incremental development tracks will be implemented to: 1) assure compliance with requirements, 2) provide traceability of requirements allocation to tracks, 3) implement an integration process that brings the separately developed pieces together into an integrated whole, and 4) provide a process for control of interfaces that supports integration.

From a System/Segments Integration & Test point of view, the incremental path can be thought of as nothing more than another development methodology. Software from this path enters the test process at the Test Readiness Review (TRR) for integration at the segment level. This means that it has rejoined the normal development flow and should be indistinguishable from formally developed software.

In practice, software from the incremental path is different. First, because its requirements analysis and objectives determination process is handled out of the formal path and I&T planning

for the increments is less precise early in the formal process. The integration team participates with the segment test organizations in the planning and testing of the Evaluation Packages, but do not control the test environment. This means that the I&TT personnel have earlier contact with and influence over incrementally developed products than with formally developed ones. This knowledge and involvement means that I&TT have the ability to react quickly to evolutionary changes during the incremental process. Any such changes will be reflected as updates to formal track test documentation, as necessary.

### **3.7 Integration and Interface Testing**

The integration of elements and segments and the integration of the ECS with external systems is a fundamental part of the I&T process. The interface requirements for the ECS will be documented in various interface requirements and control documents, both internal and external:

- Methodology for Definition of External Interfaces (DID 208/SE1)
- Interface Requirements Documents (DID 219/SE1)
- External Interface Control Documents (ICDs) (DID 209/SE1)
- ECS Internal ICDs (DID 313/DV3)

Interfaces are exercised and tested as a part of the build/thread testing process. The build-up of the system described in this document is fundamentally one of aggregation of components (threads and builds).

To perform the integration and interface verification, simulators and simulated data flows will be used until actual system capabilities exist on both sides of the interface. Release A and Version 0 data sets will be valuable as a set of early test data. For external interfaces it may be necessary to use simulators throughout the test process because of schedules (and scheduling dependencies). System/Segments Integration and Test is committed to performing engineering-level early interface testing with external systems whenever possible. Such activities will be arranged through the interface definition process and the Ground Systems Integration Working Group.

### **3.8 Test Tools**

Four areas of applicability for test tools usage on the ECS Program have been identified. First, tools are needed to support automated test planning and management. These tools assist in the development and tracking of test cases, test data, test results, as well as the mapping of requirements to test cases. The Requirements and Traceability Management (RTM) tool has been selected by the ECS project to support the requirements management process. The RTM tool provides the means to record all relationships and dependencies between requirements, documentation, releases, services, and more specifically, test specifications. RTM assists systems engineers in defining requirements, assigning them to release, and mapping them to formal test cases. In addition, test results will be recorded and mapped to requirements within RTM, so that at any point, the status of the test and verification of a specific requirement can be checked.

Second, tools are needed to simulate immature interfaces, especially for systems external to ECS. External interfaces refer to systems outside of the scope of the ECS contract. The interfaces may

be to systems already in existence, systems that are being built as part of the overall ESDIS project, or systems being built by other Government agencies or other countries. Simulators for external interfaces generate and transmit data streams in the identical format that represents the specifics of the real system's data stream.

Third, tools are needed to automatically execute test procedures or scenarios. Included in this are Remote Terminal Emulators (RTEs), to emulate live users, data generators, to generate simulated input data, and programmable test languages. For RTEs, a tool is needed that is capable of emulating the maximum number of users that ECS is required to support at one time. For data generators, simulated data sets (in Level 0 format) from each of the instruments and possibly from existing satellites will be needed. A programmable test language having some simple command structures that is capable of controlling interface simulators as well as the RTE is needed.

Finally, data reduction and analysis tools will be needed to process and summarize the large amount of test data anticipated by the ECS Program. Data reduction and analysis tools are utilities designed to analyze test output data, including utilities to compare test output to benchmark data. A sophisticated file compare utility is needed to compare expected test results to actual test results. A data reduction utility is needed to reduce large amounts of output data to some meaningful evaluation of the data's quality.

The testing environment will evolve as the ECS is developed and the Program matures. For System/Segments Integration and test, the bulk of the testing will be performed within the ECS Development Facility (EDF), located within the Hughes complex. Many simulated data streams and simulated functional capabilities will be used due to the evolving maturity of the ECS.

Since most of the tests at the EDF will have a large simulated component, it will be important to accurately record and be able to accurately reproduce test conditions, test data streams, test workloads, etc.. Test tools assist in managing and controlling the test environment to make reproducible and controllable test conditions possible.

### **3.9 Tool Kit Testing**

Tool kits provide a controlled interface into the services provided by the ECS. These interfaces are provided at four levels: User, Software, Algorithm and Application Interface. Because these are fundamentally different, the testing done on each will be significantly different. These are discussed separately in the paragraphs that follow.

#### **3.9.1 Client Workbench Interface Tool Kit Testing**

User Interface Tool Kits provide the functionality that a remote user must employ to access the user oriented services offered by the ECS. With this software the remote user has access to the full graphical interface allowing data search, data browse and data access. Other, simpler interfaces accomplished through remote login are also provided. The Flight Operation Segment (FOS) provides the Instrument Support Terminal (IST) that is envisioned to allow the field investigator limited interaction with, and control of, individual instruments on the ECS

platforms. The IST is scaled to allow operation on modest workstations that would likely be available at more remote sites.

Testing of the user interface tool kits is largely indistinguishable from the normal mainline verification of the release. Tool kit software is identical to that which will run in the local terminals at the EOC and the DAACs themselves. The only differences requiring specialized testing are the potential impact of the network connection and the degree of equipment compatibility. The ability of the tool kits to mitigate the impact of the network is verified by using a remote login through the network while testing is on-going in the EDF. Through careful attention to message routing, messages can be directed out through long loops on the Internet even though the connection could be made directly on the local LAN.

### **3.9.1.1 Version 1 Client**

The client provides a collection of components through which users access the services and data available in ECS and other systems interoperable with ECS. The client also includes the services needed to interface an application with ECS, e.g., for data access or to make use of ECS provided toolkits. The two main parts of the client are the Desktop and the Workbench. The Desktop handles interactions between the user and desktop objects. The Workbench comprises a set of application programs which implement the core functionality of the client.

The Version 1 client is new in Release B. Since the Version 0 IMS is re-used for Release A, a large portion of the Workbench (WKBCH) Computer Software Configuration Items (CSCIs) have not been implemented until Release B. New Workbench components in the V1 client are listed in table 3-3 along with their descriptions. The V1 client also offers specific data attributes and more core metadata attributes for search purposes; subsetting and subsampling data capabilities; and coincident searches across multiple data sets.

***Table 3-3. New Workbench Components***

<b>Name</b>	<b>Description</b>
Earth Science Search Tool	Used to search for Earth Science Data
Product Request Tool	Used to request/order Earth Science Data
Document Search Tool	Used to search for ECS documents
Comment/Survey Tool	Used to submit comments on the client form and function, or on the quality of any specific data or services.
User Preferences Tool	Used to select user preferences for the desktop or desktop applications.
E-mailer tool	Used to send desktop objects via e-mail.
Logger/Reviewer Tool	Used to log client transactions with external entities, and review those transactions.
News reader Tool	Used to read and submit articles to the ECS Bulletin Board.
Data Dictionary Tool	Used to request the definitions of terms and acronyms.
Hypertext Authoring Tool	Used to create HTML documents.

The V0 client performs inventory, directory, and guide searches. It also provides browse and order functions. Testing will demonstrate that the V1 client performs these functions along with any additional functions available in Release B. This testing will be performed in the Search Services, Data Access Services, Product Generation, and Client Services Threads along with subsequent builds.

### **3.9.2 Algorithm Interface (PGS) Tool Kit Testing**

The PGS Tool Kits exist in two forms. The first is delivered to scientists at the Science Computing Facilities (SCFs) to provide an environment in which algorithms destined for operational use within the ECS Product Generation System (PGS) will be developed and tested. The second form of the PGS Tool Kit replaces the first when the SCF-developed algorithm actually executes in the PGS at a DAAC. These two cases are illustrated in Figure 3-3. Both tool kits provide identical calling sequences to the science algorithm.

The SCF version of the PGS Tool Kit as illustrated in Figure 3-4, is delivered before formal delivery of the releases to allow algorithm developers an early start. Thus, the tool kit is tested separately through use of a benchmark algorithm and test drivers.

Since there is no integration of the tool kit with other parts of the ECS, this testing is not accomplished as a part of System/Segments Integration Testing and is not described in this plan. The final release of the Toolkits will be acceptance tested by the IATO.

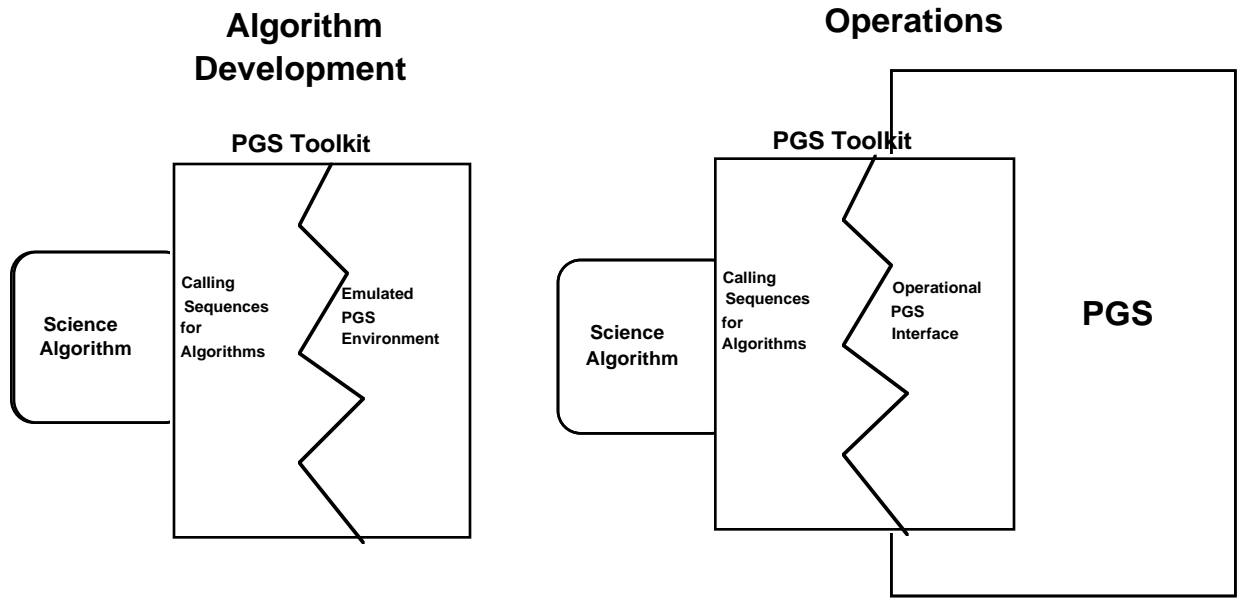
The operational version of the PGS Tool Kit as illustrated in Figure 3-3, is delivered as part of a complete release and is tested with that release. The tool kit is tested coincident with the testing of the PGS through the use of one or more benchmark algorithms.

The focus of this testing is two fold. First, it must prove that the interfaces to the algorithm meet the interface definitions of the PGS Tool Kit Specification. Second, it must prove that the PGS interfaces with the algorithm for the delivery/receipt of data and the scheduling/control of algorithms.

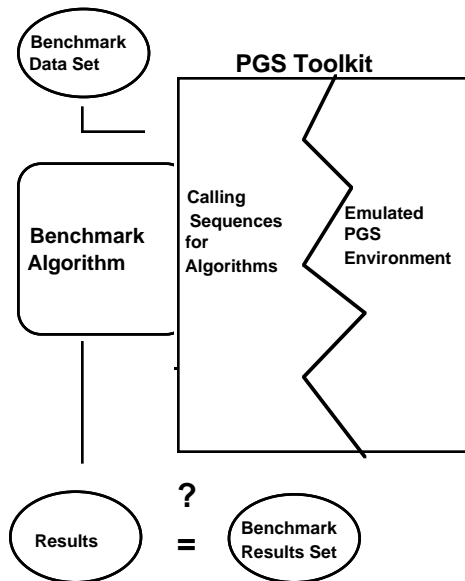
### **3.9.3 Applications Program Interface (API) Testing**

Applications Program Interfaces (APIs) are provided by the ECS to allow properly authorized, externally generated software systems access to ECS Segment/Element functions at the client/server level.

Testing of these APIs will involve the use of simple driver programs that validate compliance to the interface specifications. The operations attempted through the APIs will be chosen to explore the full range of the interface's parameters with emphasis on the most probable usage. The other necessary testing emphasis must be on verifying that the API protects the core ECS system from transgressions by the user processes.



**Figure 3-3. PGS Tool Kit Environments**



**Figure 3-4. PGS SCF Tool Kit Test Environment**

### 3.10 V0 Data Migration Testing

Migration of data sets from Version 0 to Version 1 is an incremental, iterative, long term process. The methodology for migration is defined in the Version 1 Data Migration Plan (V1 DMP) Technical Paper (160-TP-002-001). There are four steps of migration as listed in table 3-4. This approach allows the migration of smaller amounts of data before the eventual migration of large volumes of V0 data. It also allows broad review of the migration process, provides ECS with needed test data, and provides ESDIS (and DAACs) with realistic cost model estimates throughout the migration process. All Version 0 data is assumed to be migrated at some point, except for data which is available from another data center (e.g. NOAA).

**Table 3-4. Incremental Growth Path for V0 Migration**

Migration step	# data sets	Notes
Pilot Migration	at least 1 data product per DAAC	- sample granules; not operational
Release A Data Sets	3 data sets per Release A DAAC	- operational migration at start of Release A
High Priority Data Sets	about 180 data sets	- operational migration during Release A and Release B
Remaining V0 Data Sets	about 435 data sets	- operational migration completed by end of Release B

During Pilot Migration, sample data sets from each DAAC will be migrated before Release A is operational. The Pilot Migration Project will flush out the migration process in addition to providing data for internal ECS use prior to Release A. The goal of the Release A data sets migration step is to migrate a small number of data sets by the start of Release A for operational use by the science community. Only the Release A DAACs will participate in release A activities since only they have the initial archive capabilities. The goal of the high priority data sets migration step is to migrate high priority data sets which are defined as having High or Medium priority and a High (4 or 5) level of service. The last migration step will migrate the remaining V0 data sets. The details of this data migration will be dependent on the engineering and cost analyses provided to the ESDIS project office and the DAACs.

The process for migrating a specific V0 data group is documented in a Data Migration Plan (DMP). A DMP is a working document that lives throughout the migration of a specific V0 data group. A data group could be an individual product or a logical grouping of data products. A Data Group DMP will be written for every V0 data group to be migrated. Information which is common to all data groups for a particular DAAC will be documented in the DAAC-level DMP. Similarly, information which is common across all DAAC DMPs will be documented in the Version 1 DMP.

Testing V0 to V1 data migration and conversion results for Release B are performed in the Ingest Services Thread. The DAACs maintain primary responsibility for the data sets and are responsible for the quality of the data. Checks will be performed on the migrated data sufficient

to ensure that the data has not been altered or damaged by the conversion process, but System/Segments Integration and Test will not perform science validation of the data or test conversion software. All migrated V0 data will be tested for correct manageability and access. Bi-directional interoperability will be available and tested between ECS and V0 until all data sets are migrated. Instruments sited for continued acquisition of data will be supported and tests will be performed to ensure data manageability and access.

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## **4. System/Segments Integration and Test Rel A**

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The Release A System Build/Thread Plan can be found in the corresponding 402 document titled System/Segments Integration and Test Plan of TRMM (Rel A) for the ECS Project - Volume 2.

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## **5. System Thread/Build Plan (Release B)**

**(Located in a separate file)**

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# Appendix A. Test Tools Requirements

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This appendix contains a list and brief description of the test tools needed for System/Segments Integration and Test.

## A.1 Release B Test Tools Requirements

- ClearCase - library management tool used to perform software builds and delivery to test
- DDTS - Distributed Defect Tracking System
- LANalyzer - Local area network analyzer
- LoadRunner - automated software testing tool to simulate system load
- RTM - requirements traceability management tool to support the requirements management process
- Simulators - (external/internal including test data)
- Traffic Generator - automated software testing tool used to generate network traffic
- XRunner - automated software testing tool
- For more details see section 3.8 Test Tools.

## A.2 Release B Test Data Requirements

To verify ECS ingest capabilities, simulated instrument data from AM-1, Landsat 7, ADEOS II, ALT RADAR , and METEOR platforms are needed. COLOR and ACRIM instrument data, as well as SAR data, are also required. Test data to simulate L1-L4 data products is required to test processing, archiving and distribution, product generation, V0 migration and interoperability, metadata generation, and data management.

**Table A-1. ECS Science Test Data Table**

DAAC PROC/ARCH	MISSION	INSTRUMENTS	PRODUCT LEVEL
LaRC/LaRC	TRMM	CERES	0,1B,2,3
MSFC/MFSC	TRMM	LIS	0,1B,2,3,4
TSDIS/GSFC	TRMM	VIRS	1A,1B,BROWSE
TSDIS/GSFC	TRMM	PR	1A,1B,1C,2A,3A, BROWSE
TSDIS/GSFC	TRMM	TMI	1A,1B,1C,2A,3A, BROWSE
EDC/EDC	EOS AM-1	ASTER	0,1A,1B,2
LaRC/LaRC	EOS AM-1	CERES	0,1B,2,3
LaRC/LaRC	EOS AM-1	MISR	0,1A,1B,2,3
LaRC/LaRC	EOS AM-1	MOPIT	2,3
GSFC/GSFC	EOS AM-1	MODIS	1A,2,3,4
EDC/EDC	Landsat7	ETM+	0
GSFC/GSFC	FOO	COLOR	1B,2,3
JPL/JPL	ADEOS II	SeaWinds	1B,2
JPL/JPL	ALT RADAR	AMR	0
JPL/JPL	ALT RADAR	DORIS	0
JPL/JPL	ALT RADAR	SSALT	1B,2,3,4
LaRC/LaRC	ACRIMSAT	ACRIM	0,1A
LaRCLaRC	METEOR	SAGE III	1B,2
ASF/ASF	ERS-1	SAR(TBR)	0,1,2,3
ASF/ASF	ERS-2	SAR(TBR)	1,2,3
ASF/ASF	JERS-1	SAR(TBR)	0
AASF/ASF	RADARSAT	SAR(TBR)	1,2,3

To test interfaces of internal ECS subsystems, the following data is needed:

- ADC earth science data sets
- Ancillary data
- Browse products
- Correlative data
- L0 data
- L1-L4 products
- L7 Level 0R data

- Metadata
- orbit/attitude data
- QA data

For external interfaces between ECS subsystems the network/data carriers are:

- DSN
- EBnet
- EDC Campus
- GSFC Campus
- LaRC Campus
- NOLAN
- NSI
- SN

For more information on internal and external interfaces and data carriers see Release B Interface Requirements Analysis 222-WP-002-001 white paper.

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## Appendix B. Requirements Traceability Matrix

This appendix contains the requirements traceability matrix, mapping test cases to Level 4 requirements. Similar information can be found in the Release B Verification Specification (DID 403-CD-002-001).

**Table B-1. Requirements Traceability Matrix (1 of 69)**

L4 Requirement Id	Requirement Text	Testcase Id
C-CSS-01230	The CSS Security Service shall provide security delegation to allow an intermediary server to operate on behalf of an initiating client while preserving both client's and server's identities and access control attributes across chained operations.	T214-3.01.06
C-CSS-01240	The CSS DOF Service shall provide a daemon process service that enables secure remote administration of DCE services and enables control of service configuration parameters.	T214-2.01.08
C-CSS-01250	The CSS DOF Service shall provide cell namespace aliasing for the directory service to permit administrative ease of changes.	T214-4.01.03
C-CSS-01260	The CSS DOF Service shall provide a hierarchical cell namespace structure.	T214-4.01.01
C-CSS-01270	The CSS Security Service shall provide for distributed file service delegation that permits a file to be passed with its corresponding directory service namespace structure.	T214-4.01.02
C-CSS-01280	The CSS Security Service shall provide for a security service ACL manager library.	T214-1.01.02
C-CSS-22080	The CSS Message Service shall provide an API for the receiver to register interest in receiving messages from a certain sender.	T214-3.05.01
C-CSS-22180	The CSS Message Service shall provide an API that will allow thread processes to be scheduled.	T214-3.05.02
C-CSS-22190	In deferred synchronous mode, the CSS Message Service shall provide an API that will allow a user to retrieve the results of the execution of a thread.	T214-3.05.03
C-CSS-22200	The CSS Message Service shall provide an API that will supply the status of a thread process.	T214-3.05.04
C-CSS-22210	The CSS Message Service shall provide an API that will inform the user when a thread process has finished executing.	T214-3.05.05
C-CSS-24010	The CSS Lifecycle Service shall provide a generic instantiation capability that creates a new object for a client.	T214-3.03.01
C-CSS-24020	The CSS Lifecycle Service shall provide an API that accepts state initialization information.	T214-3.03.02
C-CSS-24030	The CSS Lifecycle Service shall provide an API that accepts resource preference information.	T214-3.03.03

**Table B-1. Requirements Traceability Matrix (2 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
C-CSS-24040	The CSS Lifecycle Service shall provide an API that returns an object invocation handle.	T214-3.03.04
C-CSS-24050	The CSS Lifecycle Service shall ensure that a server is available to service a user request.	T214-3.03.05
C-CSS-24060	The CSS Lifecycle Service shall act as an intermediary during the client server connection phase.	T214-3.03.06
C-CSS-24070	The CSS Lifecycle Service shall provide a way to shutdown an application process.	T214-3.03.07
C-CSS-24080	The CSS Lifecycle Service shall provide a way to suspend an application process.	T214-3.03.08
C-CSS-24090	The CSS Lifecycle Service shall provide a way to resume a suspended application process.	T214-3.03.09
C-CSS-24100	The CSS Lifecycle Service shall provide a way for server applications to construct an object (if it is not already running) and dispatch the incoming call to the object.	T214-3.03.10
C-CSS-25150	The CSS Time Service shall be interoperable with the time service provided within DCE environment	T214-3.02.01
C-CSS-25160	The CSS Time Service shall support remote time access	T214-3.02.02
C-CSS-29000	The CSS Transaction Processing Service shall be object oriented.	T214-3.04.01
C-CSS-29010	The CSS Transaction Processing Service shall use the CSS Security services.	T214-3.04.02
C-CSS-29020	The CSS Transaction Processing Service shall support the management of OODCE-based servers.	T214-3.04.03
C-CSS-29030	The CSS Transaction Processing Service shall provide to the client and server the following features: a. Atomicity - All components of the transaction shall succeed or fail as a unit. b. Consistency - The actions performed by a transaction shall take data from one consistent state to another consistent state T214-3.04.04	T214-3.04.04 T214-3.04.05 T214-3.04.06 T214-3.04.07
C-CSS-29040	The CSS Transaction Processing Service shall provide load balancing for OODCE-based servers.	T214-3.04.08
C-CSS-29050	The CSS Transaction Processing Service shall provide for the integrity of data by means of component rollback in the event of system failure.	T214-3.04.09
C-CSS-29060	The CSS Transaction Processing Service shall provide client request queuing during data server unavailability.	T214-3.04.10
C-CSS-29070	The CSS Transaction Processing Service shall provide client request dequeuing of queued requests when data server has rebooted.	T214-3.04.11
C-CSS-29080	The CSS Transaction Processing Service shall provide the capability of recovering from multiple failures without loss of data.	T214-3.04.12

**Table B-1. Requirements Traceability Matrix (3 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
C-CSS-60330	The CSS File Access Service shall provide uninterrupted file access in the event of single failure of the server.	T207-1.01.01
C-CSS-60340	The CSS File Access Service shall guarantee the accessed file to be in its most recent version.	T207-1.01.02
C-CSS-60350	The CSS File Access Service shall provide capability to change directory (cd) on the remote host.	T207-1.01.03
C-CSS-61070	The CSS Electronic Mail Service shall support the Post Office Protocol (POP).	T207-3.01.01
C-CSS-61397	The CSS Electronic Mail Service shall provide on-line help functionality.	T207-3.01.02
C-CSS-62314	The CSS Bulletin Board Service shall allow the user to withdraw a message from bulletin board after posting.	T207-4.01.01
C-CSS-62317	The CSS Bulletin Board Service shall provide on-line help functionality.	T207-4.01.02
C-CSS-64000	The CSS Dial-Up Access Service shall provide remote Internet access.	T207-2.01.01
C-CSS-65000	The CSS Secure Web service shall support the Kerberos standard.	T214-1.01.04
C-CSS-65010	The CSS Secure Web service shall support POSIX compliant Access Control List (ACL).	T214-1.01.03
C-CSS-65020	The CSS Secure Web service shall support at a minimum the GET and POST HTTP methods.	T214-2.01.08
C-CSS-65030	The CSS Secure Web service shall provide a registration interface for the user to register documents to the web server.	T214-2.01.09
C-CSS-65040	Documents ACL on the web server shall be editable with any standard ACL editor.	T214-2.01.06
C-CSS-65060	The CSS Secure Web service shall support the Data Encryption Standard (DES) to encrypt and decrypt data.	T214-1.01.05
C-CSS-65070	The CSS Secure Web service shall support encryption of the HTTP protocol.	T214-1.01.06
C-CSS-65080	The CSS Secure Web service shall support private keys.	T214-1.01.07
C-CSS-65090	The CSS Secure Web service shall provide an interface for the administration of the web server.	T214-2.01.07
C-CSS-65110	The CSS Secure Web service shall support a two-way authentication and authorization for the use by the web server.	T214-1.01.08
C-CSS-65120	The CSS Secure Web service shall authenticate and authorize DCE users using the web server.	T214-1.01.09
C-CSS-65130	The CSS Secure Web service must provide HTML formatted error messages to the web browser.	T214-2.01.11
C-CSS-65140	The CSS Secure Web service shall provide a mechanism for non-DCE browsers to view non-secured documents on the web server.	T214-2.01.10
C-CSS-65160	The CSS Secure Web service shall support the X.500 standard for naming and locating DCE cells.	T214-4.02.01
C-CSS-65170	The CSS Secure Web service shall support the Domain Name Service specification.	T214-4.02.02

**Table B-1. Requirements Traceability Matrix (4 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
C-CSS-65180	The CSS Secure Web service shall provide the capability to support encryption to keep data exchange between the browser and the server confidential.	T214-2.01.11
C-CSS-65190	All requests from a client shall provide the web server with the individual user name.	T214-1.01.12
C-CSS-65200	The CSS Secure Web service shall use DCE's ACLs to protect all documents on the web server.	T214-1.01.13
C-CSS-65210	The CSS Secure Web service shall use the Extended Generic Security Service API for message passing applications to use DCE security .	T214-1.01.14
C-CSS-65240	The CSS Secure Web service shall provide attributes to the browser indicating documents with special security restrictions.	T214-1.01.15
C-MSS-36225	The Management Agent Service shall have the capability to receive an account balance status request from the CLS.	T227-4.01.01
C-MSS-36280	The Management Agent Service shall have the capability to send billing costs to the CLS.	T227-4.01.02
C-MSS-36285	The Management Agent Service shall have the capability to send account status to the CLS.	T227-4.01.03
C-MSS-36305	The Management Agent Service shall have the capability to receive current mode from the IOS.	T227-4.02.01
C-MSS-36335	The Management Agent Service shall have the capability to send mode requests to the IOS.	T227-4.02.02
C-MSS-36355	The Management Agent Service shall have the capability to receive current mode from the DMS.	T227-4.03.01
C-MSS-36380	The Management Agent Service shall have the capability to send mode requests to the DMS.	T227-4.03.02
C-MSS-36405	The Management Agent Service shall have the capability to receive current mode from the PLS.	T227-4.04.01
C-MSS-36440	The Management Agent Service shall have the capability to send mode requests to the PLS.	T227-4.04.02
C-MSS-36455	The Management Agent Service shall have the capability to receive current mode from the DPS.	T227-4.05.01
C-MSS-36485	The Management Agent Service shall have the capability to send mode requests to the DPS.	T227-4.05.02
C-MSS-36505	The Management Agent Service shall have the capability to receive current mode from the INS.	T227-4.06.01
C-MSS-36545	The Management Agent Service shall have the capability to send mode requests to the INS.	T227-4.06.02
C-MSS-36555	The Management Agent Service shall have the capability to receive current mode from the DSS.	T227-4.07.01
C-MSS-36605	The Management Agent Service shall have the capability to send mode requests to the DSS.	T227-4.07.02
C-MSS-36705	The Management Agent Service shall have the capability to receive current mode from the CSS.	T227-4.08.01

**Table B-1. Requirements Traceability Matrix (5 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
C-MSS-36755	The Management Agent Service shall have the capability to send mode requests to the CSS.	T227-4.08.02
C-MSS-42000	The MSS Software Distribution Service shall maintain version controlled repositories for toolkit software, software upgrades, and documentation.	T200-2.01.01
C-MSS-42010	The MSS Software Distribution Service shall have the capability to retrieve the contents for each repository from the MSS Baseline Manager Service.	T200-2.01.02
C-MSS-42020	The MSS Software Distribution Service shall provide via the CSS Bulletin Board Service access to the toolkit repository/information.	T200-2.01.03
C-MSS-42030	The MSS Software Distribution Service shall package software, databases, and documentation for delivery to destinations at both ECS and ECS-connected sites.	T200-2.01.04
C-MSS-42040	The MSS Software Distribution Service shall schedule via the EMC Planning and Scheduling Service automatic and operator-assisted distribution of software packages.	T200-2.01.05
C-MSS-42070	The MSS Software Distribution Service shall determine destinations from stored lists as well as via interactive input.	T200-2.01.06
C-MSS-42080	The MSS Software Distribution Service shall have the capability to push software packages from a central distribution point/depot to remote target platforms (servers and workstations).	T200-2.01.07
C-MSS-42090	The MSS Software Distribution Service at the site shall have the capability to pull distribution packages from central distribution points/depots onto individual target destinations.	T200-2.01.08
C-MSS-42100	The MSS Software Distribution Service shall initiate electronic transfer of distribution packages either automatically according to schedule or upon direct command.	T200-2.01.09
C-MSS-42110	The MSS Software Distribution Service shall maintain a record of successful package transfers as well as of each target that fails to receive a package intended for it.	T200-2.01.10
C-MSS-42200	The MSS License Management Service shall maintain information on product identification, licensing provisions, numbers and types of users	T200-2.02.01
C-MSS-42230	The MSS License Management Service shall distribute software license provisions system-wide.	T200-2.02.02
C-MSS-42240	The MSS License Management Service shall create, install, modify, and reinstall software licenses on ECS servers.	T200-2.02.03
C-MSS-42250	The MSS License Management Service shall meter use of software licenses,	T200-2.02.04
C-MSS-42270	The MSS License Management Service shall have the capability to notify the M&O staff when license metering events occur.	T200-2.02.05
C-MSS-42280	The MSS License Management Service shall log license management events	T200-2.02.06
C-MSS-42290	The MSS License Management Service shall compile license utilization statistics.	T200-2.02.07

**Table B-1. Requirements Traceability Matrix (6 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
C-MSS-42300	The MSS License Management Service shall report license utilization statistics.	T200-2.02.08
C-MSS-50000	The MSS Maintenance Management Service shall provide the capability to view specified site's PM information.	T200-3.09.01
C-MSS-50010	The MSS Maintenance Management Service shall provide the capability to view specified site's corrective maintenance information.	T200-3.10.01
C-MSS-50020	The MSS Maintenance Management Service shall provide the M&O staff the capability to produce PM and corrective maintenance reports based on operator entered criteria.	T200-3.09.02
C-MSS-50030	The MSS Maintenance Management Service at the SMC shall have the capability to receive specified site maintenance data for use in maintenance trends analysis.	T200-3.09.03
C-MSS-50040	The MSS Maintenance Management Service shall provide the capability to input, store, maintain, and view/print Preventive Maintenance (PM) information for site equipment.	T200-3.09.04
C-MSS-50050	The MSS Maintenance Management Service shall provide the capability to input, store, maintain, and view/print key information concerning PM performed.	T200-3.09.05
C-MSS-50060	The MSS Maintenance Management Service shall provide the capability to input, store, maintain, and view/print corrective maintenance performed (CMP) information.	T200-3.10.02
C-MSS-50070	The MSS Maintenance Management Service shall have the capability, via M&O Staff entered criteria, to retrieve and display information relevant to PM and corrective maintenance services previously performed.	T200-3.09.06
C-MSS-50090	The MSS Maintenance Management Service shall have the capability to replaced/modified equipment information maintained in the MSS Baseline Manager Service database.	T200-3.11.01
C-MSS-50100	The MSS Maintenance Management Service shall log the following information for operations performed and detected errors: operation type, userid of initiator, date time stamp; and host name	T200-3.10.03
C-MSS-50110	The MSS Maintenance Management Service shall generate chronological reports of logged events associated with user selectable: time frames; operation types; userids; and hosts.	T200-3.10.04
C-MSS-50120	The MSS Maintenance Management Service shall provide the capability to maintain sites' off-site maintenance information.	T200-3.12.01
C-MSS-50130	The MSS Maintenance Management Service shall provide off-site maintenance reports based on operator entered criteria.	T200-3.12.02
C-MSS-50140	The MSS Maintenance Management Service shall record off-site maintenance information: identification of component; description of problem; and corrective action taken.	T200-3.12.03
C-MSS-50160	The MSS Maintenance Management Service shall provide the capability to input off-site corrective hardware and software information.	T200-3.12.04

**Table B-1. Requirements Traceability Matrix (7 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
C-MSS-50170	The MSS Maintenance Management Service shall provide the capability to store off-site corrective hardware and software information.	T200-3.12.05
C-MSS-50180	The MSS Maintenance Management Service shall provide the capability to update off-site corrective hardware and software information.	T200-3.12.06
C-MSS-50190	The MSS Maintenance Management Service shall provide the capability to view off-site corrective hardware and software information.	T200-3.12.07
C-MSS-50200	The MSS Maintenance Management Service shall provide the capability to generate off-site maintenance reports based on operator entered criteria.	T200-3.12.08
C-MSS-50210	The MSS Maintenance Management Service shall provide the capability to access a specified site's off-site maintenance repair information.	T200-3.12.09
C-MSS-50230	The MSS Maintenance Management Service shall provide the capability to produce maintenance status reports.	T200-3.10.05
C-MSS-50235	The MSS Maintenance Management Service shall have the capability to schedule maintenance events via the MSS Planning and Scheduling Service.	T200-3.10.06
C-MSS-51010	The MSS Training Management Service shall provide the capability to input, store, maintain, and view/print training information.	T200-3.07.01
C-MSS-51020	The MSS Training Management Service shall provide the capability to input, store, maintain, and view/print training records information.	T200-3.07.02
C-MSS-51030	The MSS Training Management Service shall provide the capability to input, store, maintain, and view/print site training requirements information.	T200-3.07.03
C-MSS-51060	The MSS Training Management Service at the SMC shall provide the capability to prepare, update, store, view/print, and disseminate training courses descriptions, course prerequisites, resource requirements, and schedules.	T200-3.08.01
C-MSS-51070	The MSS Training Management Service shall provide the capability to retrieve and view/print training courses and schedules information from a SMC training information repository.	T200-3.07.04
C-MSS-51080	The MSS Training Management Service at the SMC shall provide the capability to prepare, update, store, and view/print a list of self study, supervisory, and testing requirements for each of the OJT designated ECS positions.	T200-3.08.02
C-MSS-51090	The MSS Training Management Service at the SMC shall provide the capability to prepare, update, store copy of, and view/print training material.	T200-3.08.03
C-MSS-51100	The MSS Training Management Service at the SMC shall provide the capability to capture and make available suggestions/recommendations concerning the use of training material for applicable courses.	T200-3.08.04

**Table B-1. Requirements Traceability Matrix (8 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
C-MSS-51110	The MSS Training Management Service at the SMC shall provide the capability to capture, summarize, and make available course critique.	T200-3.08.05
C-MSS-51120	The MSS Training Management Service shall have the capability to schedule training events via the MSS Planning and Scheduling Service.	T200-3.07.05
C-MSS-52010	The MSS Policy and Procedures Management Service at the SMC shall provide the capability to prepare, store, maintain, and make available for distribution ECS policies and procedures.	B226.01.01
C-MSS-52030	The MSS Policy and Procedures Management Service shall provide the capability to input, store, maintain, and view/print site specific policies and procedures.	B226.02.02
C-MSS-52040	The MSS Policy and Procedures Management Service shall provide a bulletin board service with information on ECS, status, events and news,	B226.01.02
C-MSS-52050	The MSS Policy and Procedures Management Service shall maintain a bulletin board service with information on ECS, status, events and news,	B226.01.03
C-MSS-56010	The MSS Mode Management Service shall support a operational mode capability	T206-2.01.01
C-MSS-56020	The MSS Mode Management Service shall support a test mode capability	T206-1.01.01
C-MSS-56030	The MSS Mode Management Service shall support a training mode capability	T206-1.01.02
C-MSS-56040	The MSS Mode Management Service shall have the capability to monitor each independently executing mode for performance statistics.	T206-1.02.01 T206-2.02.01
C-MSS-56050	The MSS Mode Management Service shall provide fault detection and isolation capabilities for each independently executing mode.	T206-1.02.02 T206-2.02.02
C-MSS-56060	The MSS Mode Management Service shall maintain a collection of management statistics for each mode supported.	T206-1.02.03 T206-2.02.03
C-MSS-56070	The MSS Mode Management test mode shall be capable of executing simultaneously with the operational mode	T206-1.01.03 T206-2.01.02
C-MSS-56080	The MSS Mode Management training mode shall be capable of executing simultaneously with the operational mode.	T206-1.01.04 T206-2.01.03
C-MSS-56090	The MSS Mode Management Service shall have the capability to identify components which have been taken off-line for maintenance	B206.01.01 B206.01.02 B206.01.03

**Table B-1. Requirements Traceability Matrix (9 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
C-MSS-60161	The MSS EMC Fault Management Application Service shall have the capability to receive notifications of detected faults and degradation of performance from: a. Site fault management applications b. EBnet c. ASTER d. NOAA (SAA) e. Landsat(MMO) f. NSI g. NOLAN	T227-3.01.01 T227-3.01.02 T227-3.02.01 T227-3.02.02
C-MSS-60171	The MSS EMC Fault Management Application Service shall be capable of requesting fault notification and performance degradation data from : a. Site Fault Management Applications b. EBnet c. ASTER d. NOAA(SAA) e. Landsat(MMO) f. NSI g. NOLAN	T227-3.01.03 T227-3.01.04 T227-3.02.03 T227-3.02.04
C-MSS-60181	The MSS EMC Fault Management Application Service shall be capable of receiving summarized fault notification and performance degradation data from: a. Site fault management applications b. EBnet c. ASTER d. NOAA(SAA) e. Landsat(MMO) f. NSI g. NOLAN	T227-3.01.05 T227-3.01.06 T227-3.02.05 T227-3.02.06
C-MSS-66121	The MSS performance management application service shall be capable of determining the operational state of all network components, hosts, and peripherals to be: a. on-line b. off-line c. in test mode d. In maintenance, e. in simulation mode.	T227-2.01.01 T227-2.01.02 T227-2.01.03 T227-2.01.04 T227-2.01.05
C-MSS-70515	The MSS Security Management Application Service shall have the capability to manage encrypted information, including keys.	T214-1.01.16
C-MSS-75015	The MSS accountability management service shall provide the capability for M&O Staff to modifying and delete user profile records.	T200-1.01.01
C-MSS-75060	The MSS accountability management service shall provide the capability to maintain a system profile inventory database of ECS software and non product data.	T200-1.02.01

**Table B-1. Requirements Traceability Matrix (10 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
C-MSS-75070	The system profile inventory database shall store the following information for each inventory entry: Data ID, Data purpose, Data location, Data classification and Data priority.	T200-1.02.02
C-MSS-75080	The MSS accountability management service shall be capable of receiving new system profile inventory records entered by M&O Staff.	T200-1.02.03
C-MSS-75090	The MSS accountability management service shall provide the capability for M&O Staff to modify and delete system profile inventory records .	T200-1.02.04
C-MSS-78010	The MSS Billing/Accounting Application Service (BAAS) functional requirements shall conform to the functional requirements defined by the Federal Financial Management System Requirements issued by the Joint Financial Management Improvement Program (JFIMP)	T226-1.01.01
C-MSS-78030	The MSS BAAS shall provide the following major functions: request processing, billing & invoicing, accounts receivable, accounts payable, collections, general ledger, cost accounting, and reporting.	T226-1.01.02
C-MSS-78100	The MSS BAAS Billing & Invoicing function shall generate user account billing statements as well as billing invoices.	T226-1.02.01
C-MSS-78110	The MSS BAAS Billing & Invoicing function shall generate user account billing statements and billing invoices on paper as well as electronic formats.	T226-1.02.02
C-MSS-78120	The MSS BAAS Billing & Invoicing function shall price user activity records using standardized pricing tables.	T226-1.02.03
C-MSS-78130	The MSS BAAS Billing & Invoicing function shall apply credits and adjustments given to a user account over a billing period.	T226-1.02.04
C-MSS-78150	The MSS BAAS Billing & Invoicing function shall accept special rates for specific users/groups.	T226-1.02.06
C-MSS-78160	The MSS BAAS Billing & Invoicing function shall apply any past due amounts to an invoice.	T226-1.02.07
C-MSS-78180	The MSS BAAS Billing & Invoicing function shall provide the capability to consolidate multiple user accounts into a single group account, due from one paying location.	T226-1.02.08
C-MSS-78190	The MSS BAAS Billing & Invoicing function shall generate statement and billing invoice reprints upon request.	T226-1.02.09
C-MSS-78200	The MSS BAAS Billing & Invoicing function shall be capable of accessing account activity information from the ECS Management Database to price account usage and purchases of ECS service products.	T226-1.02.10
C-MSS-78220	The MSS BAAS Billing & Invoicing function shall have access to account billing information from the ECS Management Database (e.g. billing address, bill cycle, payment option).	T226-1.02.11
C-MSS-78240	The MSS BAAS Billing & Invoicing function shall collect science user activity information from the ECS Management Database every 24 hours; daily.	T226-1.02.12

**Table B-1. Requirements Traceability Matrix (11 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
C-MSS-78260	The MSS BAAS Billing & Invoicing function shall use a monthly billing cycle.	T226-1.02.13
C-MSS-78300	The MSS BAAS Accounts Receivable (AR) function shall maintain current updated individual and summary user account balances.	T226-1.03.01
C-MSS-78310	The MSS BAAS Accounts Receivable (AR) function shall have the capability to reference all update transactions to the appropriate supporting documents (e.g., billing invoice number).	T226-1.03.02
C-MSS-78320	The MSS BAAS Accounts Receivable (AR) function shall allow transactions to be entered in batches.	T226-1.03.03
C-MSS-78330	The MSS BAAS Accounts Receivable (AR) function shall accept manual entry of adjustments and transactions, bypassing batch requirements.	T226-1.03.04
C-MSS-78340	The MSS BAAS Accounts Receivable (AR) function shall record complete and partial receipts of payments.	T226-1.03.05
C-MSS-78350	The MSS BAAS Accounts Receivable (AR) function shall provide the ability to apply receipts to more than one receivable.	T226-1.03.06
C-MSS-78360	The MSS BAAS Accounts Receivable (AR) shall post credit balances and adjustments to user accounts.	T226-1.03.07
C-MSS-78400	The MSS BAAS Accounts Receivable (AR) function shall accept purchase orders.	T226-1.03.11
C-MSS-78410	The MSS BAAS Accounts Receivable (AR) function shall process refunds for deposits taken on service.	T226-1.03.12
C-MSS-78420	The MSS BAAS Accounts Receivable (AR) function shall process refunds for overpayments on user charges.	T226-1.03.13
C-MSS-78430	The MSS BAAS Accounts Receivable (AR) function shall provide the capability to apply refunds to outstanding balances or to credit an account for future amounts due if users request it.	T226-1.03.14
C-MSS-78440	The MSS BAAS Accounts Receivable (AR) function shall provide the capability to re-establish a receivable for checks returned due to insufficient funds.	T226-1.03.15
C-MSS-78450	The MSS BAAS Accounts receivable (AR) function shall support automatic balancing of the accounts receivable master file.	T226-1.03.16
C-MSS-78460	The MSS BASS Accounts Receivable (AR) shall monitor the aging of individual receivables.	T226-1.03.17
C-MSS-78480	The MSS BAAS Accounts receivable (AR) function shall maintain a history for each account.	T226-1.03.18
C-MSS-78490	The MSS BAAS Accounts Receivable (AR) function shall identify each transaction via reference numbers.	T226-1.03.19
C-MSS-78500	The MSS BAAS Accounts Receivable (AR) function shall provide the capability to purge accounts, removing closed accounts to a history file.	T226-1.03.20
C-MSS-78510	The MSS BAAS Accounts Receivable (AR) function shall have the capability to receive accounts receivable data for sales conducted over-the-counter at a site.	T226-1.03.21

**Table B-1. Requirements Traceability Matrix (12 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
C-MSS-78520	The MSS BAAS Accounts Receivable (AR) function shall provide the capability to communicate revenue information to a NASA accounting system for reporting and deposit.	T226-1.03.22
C-MSS-78530	The MSS BAAS Accounts Receivable (AR) function shall submit user refund requests to a NASA accounting system.	T226-1.03.23
C-MSS-78540	The MSS BAAS Accounts Receivable (AR) function shall make account balance information available to science users upon a CLS request.	T226-1.03.24
C-MSS-78560	The MSS BAAS Accounts Receivable (AR) function shall provide reports indicating summary of accounts receivable activity for a specific period.	T226-1.03.26
C-MSS-78570	The MSS BAAS Accounts Receivable (AR) function shall provide an exception report listing all accounts with credit balances.	T226-1.03.27
C-MSS-78580	The MSS BAAS Accounts Receivable (AR) function shall identify receivables which have been reduced by means other than cash collections (e.g., adjustments),	T226-1.03.28
C-MSS-78590	The MSS BAAS Accounts Receivable (AR) function shall produce an account receivable aging report.	T226-1.03.29
C-MSS-78600	The MSS BAAS Accounts Receivable (AR) function shall provide upon request a batch listing of all activity and items in a particular batch.	T226-1.03.30
C-MSS-78610	The MSS BAAS Accounts Receivable (AR) function shall provide upon request an account payment profile.	T226-1.03.31
C-MSS-78700	The MSS BAAS Accounts Payable (AP) function shall maintain vendor/payee master files.	T226-1.04.01
C-MSS-78710	The MSS BAAS Accounts Payable (AP) function shall provide the capability to update vendor/payee master files.	T226-1.04.02
C-MSS-78720	The MSS BAAS Accounts Payable (AP) function shall maintain payee account balances.	T226-1.04.03
C-MSS-78730	The MSS BAAS Accounts Payable (AP) function shall maintain payee account information to include: a. payee bank account information. b. payee taxpayer identification number and payee type. c. contract terms (e.g., net terms, terms that use discounting, end-of-month terms).	T226-1.04.04
C-MSS-78750	The MSS BAAS Accounts Payable (AP) function shall provide the capability to establish temporary accounts (e.g., when issuing a refund to a user account).	T226-1.04.06
C-MSS-78760	The MSS BAAS Accounts Payable (AP) function shall support batch entry of invoices.	T226-1.04.07
C-MSS-78770	The MSS BAAS Accounts Payable (AP) function shall support matching of vendor invoices to purchase order line items.	T226-1.04.08
C-MSS-78780	The MSS BAAS Accounts Payable (AP) function shall support matching of vendor invoices to inventory receiving reports.	T226-1.04.09

**Table B-1. Requirements Traceability Matrix (13 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
C-MSS-78790	The MSS BAAS Accounts Payable (AP) function shall provide the capability to indicate discrepancies between quantity, type, and cost of goods ordered, received, and invoiced.	T226-1.04.10
C-MSS-78810	The MSS BAAS Accounts Payable (AP) function shall provide on-line voucher approval by M&O staff.	T226-1.04.11
C-MSS-78820	The MSS BAAS Accounts Payable (AP) function shall provide re-routing capabilities for vouchers which are not approved the first time.	T226-1.04.12
C-MSS-78830	The MSS BAAS Accounts Payable (AP) function shall provide the ability to suspend a voucher from further processing.	T226-1.04.13
C-MSS-78840	The MSS BAAS Accounts Payable (AP) function shall provide the capability to void a voucher	T226-1.04.14
C-MSS-78850	The MSS BAAS Accounts Payable (AP) function shall allow M&O staff to break up a voucher into multiple payments when charges on invoice have different due dates.	T226-1.04.15
C-MSS-78860	The MSS BAAS Accounts Payable (AP) function shall provide the capability to combine several vouchers for the same vendor into a single payment.	T226-1.04.16
C-MSS-78880	The MSS BAAS Accounts Payable (AP) function shall assign a status code to each voucher to track its progress through the system.	T226-1.04.18
C-MSS-78890	The MSS BAAS Accounts Payable (AP) function shall provide an on-line voucher approval process by M&O staff.	T226-1.04.19
C-MSS-78900	The MSS BAAS Accounts Payable (AP) function shall allow an on-line query and searching of the voucher history file.	T226-1.04.20
C-MSS-78910	The MSS BAAS Accounts Payable (AP) function shall allow orders to be re-opened by M&O staff after final payment has been made.	T226-1.04.21
C-MSS-78920	The MSS BAAS Accounts Payable (AP) function shall have the capability to access purchase order line items information from the ECS Management Database to match to vendor invoices before authorizing payment of invoices.	T226-1.04.22
C-MSS-78930	The MSS BAAS Accounts Payable (AP) function shall have the capability to access inventory receiving reports information from the ECS Management Database to match to vendor invoices before authorizing payment of invoices.	T226-1.04.23
C-MSS-78940	The MSS BAAS Accounts Payable (AP) function shall transmit vendor invoice payment requests and user refund payment requests to a NASA accounting system	T226-1.04.24
C-MSS-78950	The MSS BAAS Accounts Payable (AP) function shall prepare detailed and summary listings of amounts payable for a specific period of time.	T226-1.04.25
C-MSS-78960	The MSS BAAS Accounts Payable (AP) function shall provide reporting of all unreconciled and outstanding items.	T226-1.04.26
C-MSS-78970	The MSS BAAS Accounts Payable (AP) function shall provide a vendor master list.	T226-1.04.27

**Table B-1. Requirements Traceability Matrix (14 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
C-MSS-79100	The MSS BAAS Collections function shall identify delinquent accounts; those accounts which have violated ECS-determined account aging parameters.	T226-1.05.01
C-MSS-79110	The MSS BAAS Collections function shall provide the capability to allow ECS-defined collections parameters.	T226-1.05.02
C-MSS-79120	The MSS BAAS Collections function shall provide the capability to override specific accounts from the collections process.	T226-1.05.03
C-MSS-79140	The MSS BAAS Collections function shall generate custom and form dunning letters to delinquent accounts.	T226-1.05.04
C-MSS-79150	The MSS BAAS Collections function shall keep log of contacts and contact attempts with users in delinquent accounts.	T226-1.05.05
C-MSS-79160	The MSS BAAS Collections function shall record payment arrangements made with users.	T226-1.05.06
C-MSS-79170	The MSS BAAS Collections function shall initiate service suspension, cancellation, and restoration as appropriate.	T226-1.05.07
C-MSS-79180	The MSS BAAS Collections function shall calculate amounts declared non-collectible (write-offs).	T226-1.05.08
C-MSS-79190	The MSS BAAS Collections function shall record write-off amounts.	T226-1.05.09
C-MSS-79200	The MSS BAAS Collections function shall save all collections history information on particular accounts.	T226-1.05.10
C-MSS-79500	The MSS BAAS General Ledger (GL) function shall set up a chart of accounts.	T226-1.06.01
C-MSS-79510	The MSS BAAS General Ledger (GL) function shall accept entries via balanced batches.	T226-1.06.02
C-MSS-79520	The MSS BAAS General Ledger (GL) function shall accept direct entries by-passing the batches.	T226-1.06.03
C-MSS-79530	The MSS BAAS General Ledger (GL) function shall update and edit each account on-line.	T226-1.06.04
C-MSS-79540	The MSS BAAS General Ledger (GL) function shall provide on-line inquiry capability into account balances.	T226-1.06.05
C-MSS-79550	The MSS BAAS General Ledger (GL) function shall provide the capability for M&O staff to establish standardized transactions.	T226-1.06.06
C-MSS-79560	The MSS BAAS General Ledger (GL) function shall provide the capability for M&O staff to modify standardized transactions.	T226-1.06.07
C-MSS-79570	The MSS BAAS General Ledger (GL) function shall accommodate future period transaction entries.	T226-1.06.08
C-MSS-79580	The MSS BAAS General Ledger (GL) function shall accommodate prior period transaction entries for all periods that are open to posting.	T226-1.06.09
C-MSS-79590	The MSS BAAS General Ledger (GL) function shall provide the capability to automatically create new accounts.	T226-1.06.10
C-MSS-79600	The MSS BAAS General Ledger (GL) function shall perform end-of-period process (trial balances), accruals, and consolidation processes under the control of authorized staff.	T226-1.06.11

**Table B-1. Requirements Traceability Matrix (15 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
C-MSS-79610	The MSS BAAS General Ledger (GL) function shall provide the capability for multiple preliminary end-of-period closings before final closing.	T226-1.06.12
C-MSS-79620	The MSS BAAS General Ledger (GL) function shall provide the capability to post current period data during preliminary end-of-period closings.	T226-1.06.13
C-MSS-79630	The MSS BAAS General Ledger (GL) function shall use standardized transactions identified by reference codes to control transaction editing, posting, and updating of information , such as documented balances and available funding.	T226-1.06.14
C-MSS-79640	The MSS BAAS General Ledger (GL) function shall maintain a documented trail of any changes conducted by authorized staff on out-of-balance accounts.	T226-1.06.15
C-MSS-79650	The MSS BAAS General Ledger (GL) function shall provide the capability to move accounts to a history file.	T226-1.06.16
C-MSS-79660	The MSS BAAS General Ledger (GL) function shall provide the capability to re-open closed accounts when required.	T226-1.06.17
C-MSS-79670	The MSS BAAS General Ledger (GL) function shall provide the capability to archive data needed for comparative analysis and presentation of historical information.	T226-1.06.18
C-MSS-79680	The MSS BAAS General Ledger (GL) function provide a trial balance sheet.	T226-1.06.20
C-MSS-79690	The MSS BAAS General Ledger (GL) function shall provide end-of-period reports (e.g., end-of-month, end-of-quarter, end-of-year).	T226-1.06.21
C-MSS-79750	The MSS BAAS Cost Accounting function shall maintain authorized billing algorithms to value products and services, and the cost of serving users.	T226-1.07.01
C-MSS-79760	The MSS BAAS Cost Accounting function shall provide a trail to assign identifiable sources to all costs.	T226-1.07.02
C-MSS-79780	The MSS BAAS Cost Accounting function shall provide the capability to assign costs to processes using authorized cost algorithms.	T226-1.07.03
C-MSS-79790	The MSS BAAS Cost Accounting function shall provide the capability to assign costs to ECS products using authorized cost algorithms.	T226-1.07.04
C-MSS-79800	The MSS BAAS Cost Accounting function shall provide the capability to assign costs to serve different users.	T226-1.07.05
C-MSS-79810	The MSS BAAS Cost Accounting function shall provide the capability to establish historical accounts of costs assigned to individual users.	T226-1.07.06
C-MSS-79820	The MSS BAAS Cost Accounting function shall provide the capability to establish historical accounts of costs assigned to user groups.	T226-1.07.07

**Table B-1. Requirements Traceability Matrix (16 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
C-MSS-79830	The MSS BAAS Cost Accounting function shall provide the capability to establish historical accounts to track the costs assigned to different processes.	T226-1.07.08
C-MSS-79840	The MSS BAAS Cost Accounting function shall have the capability to receive resource and product utilization information from the ECS Management Database to track costs to identifiable and quantifiable sources.	T226-1.07.09
C-MSS-79850	The MSS BAAS Cost Accounting function shall have the capability to access resource and product utilization information from the ECS Management Database to determine costs consumed to serve different users.	T226-1.07.10
C-MSS-79860	The MSS BAAS Cost Accounting function shall have the capability to access resource and product utilization information from the ECS Management Database to enable ECS to allocate costs to different processes and products.	T226-1.07.11
C-MSS-79870	The MSS BAAS Cost Accounting function shall provide reports identifying the costs incurred by ECS in support of its activities.	T226-1.07.12
C-MSS-79880	The MSS BAAS Cost Accounting function shall provide reports assigning costs to identifiable sources.	T226-1.07.13
C-MSS-79890	The MSS BAAS Cost Accounting function shall provide reports identifying costs traceable to particular science users/groups.	T226-1.07.14
C-MSS-79900	The MSS BAAS Reporting function shall provide standard automated financial statements and summary reports.	T226-1.08.01
C-MSS-79930	The MSS BAAS Reporting function shall report data in accordance with accounting standards recommended by the Federal Accounting Standards Advisory Board (FASAB) and issued by the Director of OMB.	T226-1.08.02
C-MSS-79940	The MSS BAAS Reporting function shall support the following report formats a. hard copy #b. on-line inquiries #c. extract data files #d. disk	T226-1.08.03
C-MSS-79960	The MSS BAAS Reporting function shall maintain prior periods reporting data for future consultation and comparative analysis.	T226-1.08.04
C-MSS-79970	The MSS BAAS Reporting function shall provide the capability for the reformatting of reports to tailor a report to a user's specific needs.	T226-1.08.05
C-MSS-79980	The MSS BAAS Reporting function shall allow the transfer of information to other applications outside of the Billing/Accounting Application Service (BAAS).	T226-1.08.06
C-MSS-92010	The MSS Report Generation Service shall be capable of generating standard and ad-hoc reports and queries on all or portions of the management and related data maintained in the management database.	T226-2.01.01
C-MSS-92020	The MSS Report Generation Service shall provide a Motif based GUI workbench for use by database specialist M&O staff in generating standard and ad-hoc reports and queries.	T226-2.01.02

**Table B-1. Requirements Traceability Matrix (17 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
C-MSS-92030	The MSS Report Generation Service shall provide an HTML based user interface for use by non-database specialists on the M&O staff in requesting standard reports.	T226-2.01.03
C-MSS-92040	The MSS Report Generation Service shall be capable of outputting generated reports to the user's console, a file, or a printer	T226-2.01.04
C-MSS-92050	The MSS Report Generation Service shall be capable of outputting report query results to a file in a tabular format which can be imported by analysis tools such as spreadsheets	T226-2.01.05
C-MSS-92060	The MSS Report Generation Service shall be capable of outputting reports to a file in an HTML compatible format.	T226-2.01.06
C-MSS-92070	The MSS Report Generation Service shall be capable of generating an Enhancement Proposal Status Report containing the status of proposed enhancements including: #a. name #b. description #c. rationale #d. impacts #e. cost to implement # f. implementation milestone schedule	T226-2.01.07
C-MSS-92080	The MSS Report Generation Service shall be capable of generating a Routine Data Production Performance Detail Report itemizing scheduled vs actual times for data collection, processing, retrieval and delivery along with: # a. reason for schedule variance #b. data quality #c. user feedback	T226-2.02.01
C-MSS-92090	The MSS Report Generation Service shall be capable of generating a Routine Data Production Performance Summary Report containing statistical rollups of scheduled vs actual deviations, data quality, and user feedback for data collection, processing, retrieval, and delivery of routine production data.	T226-2.02.02
C-MSS-92100	The MSS Report Generation Service shall be capable of generating a User Requested Data Production Performance Detail Report containing scheduled vs actual times for data collection, processing, retrieval and delivery along with: #a. reason for schedule variance #b. data quality #c. user feedback	T226-2.02.03
C-MSS-92110	The MSS Report Generation Service shall be capable of generating a User Requested Data Production Performance Summary Report containing statistical rollups of scheduled vs actual deviations, data quality, and user feedback for data collection, processing, retrieval, and delivery of routine production data	T226-2.02.04
C-MSS-92120	The MSS Report Generation Service shall be capable of generating a Ground Operations Activity Performance Detail Report containing scheduled vs actual times for ground events such as maintenance, training, reconfiguration. The report shall detail: #a. reason for schedule variance #b. user feedback	T226-2.02.05
C-MSS-92130	The MSS Report Generation Service shall be capable of generating a Ground Operations Event Performance Summary Report containing statistical rollups of scheduled vs actual deviations for ground events such as maintenance, testing, reconfiguration.	T226-2.02.06

**Table B-1. Requirements Traceability Matrix (18 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
C-MSS-92140	The MSS Report Generation Service shall be capable of generating a Product Generation Status Detail Report containing the status of all product processing/reprocessing and storage.	T226-2.02.07
C-MSS-92150	The MSS Report Generation Service shall be capable of generating a Product Generation Status Summary Report containing the percent distribution of product generation work within each processing state.	T226-2.02.08
C-MSS-92160	The MSS Report Generation Service shall be capable of generating a Resource Performance Report containing: #a. Availability #b. Reason for downtime #c. Utilization #d. Indication of compliance with performance criteria. #e. Short and long term trend analysis and capacity planning results	T226-2.02.09
C-MSS-92170	The MSS Report Generation Service shall be capable of generating a CPU Load Report graphically depicting the average number of jobs in the run queue over the last 1, 5, and 15 minute period for each selected node.	T226-2.02.10
C-MSS-92190	The MSS Report Generation Service shall be capable of generating an Ethernet Traffic Report graphically plotting network packet statistics in real-time for the operator selected SNMP node(s).	T226-2.03.02
C-MSS-92200	The MSS Report Generation Service shall be capable of generating an SNMP Traffic Report graphically plotting network packet statistics in real-time for the operator selected SNMP node(s).	T226-2.03.03
C-MSS-92210	The MSS Report Generation Service shall be capable of generating an SNMP Operations Report graphically plotting the number of selected SNMP operations/sec requested to be performed by the SNMP agent on the selected node(s).	T226-2.03.04
C-MSS-92220	The MSS Report Generation Service shall be capable of generating a Site Host Resource Utilization Report indicating minimum/average/maximum measured percent usage of host CPU and memory resources and disk reads and writes over the report interval.	T226-2.03.05
C-MSS-92230	The MSS Report Generation Service shall be capable of generating a SMC Host Resource Utilization Report indicating minimum/average/maximum measured percent usage of SMC host CPU and memory resources and disk reads and writes over the report interval.	T226-2.03.06
C-MSS-92240	The MSS Report Generation Service shall be capable of generating a Disk Space Report which lists the file system space available on a selected managed host node.	T226-2.03.07
C-MSS-92250	The MSS Report Generation Service shall be capable of generating a User Service Performance Report containing summary and detailed analysis of user feedback including: #a. User information #b. Type of transaction #c. Satisfaction statistics #d. User recommendations #e. SMC recommendations	T226-2.04.01

**Table B-1. Requirements Traceability Matrix (19 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
C-MSS-92260	The MSS Report Generation Service shall be capable of generating a Data Distribution Performance Report listing time a request received, assigned, processed, verified, and delivered and variances from nominal.	T226-2.04.02
C-MSS-92270	The MSS Report Generation Service shall be capable of generating a Media Distribution Profile Report containing the statistical distribution of routine and user-requested products by electronic means and physical media type over the reporting period.	T226-2.04.03
C-MSS-92280	The MSS Report Generation Service shall be capable of generating a Data Orders Tracking Summary Report containing summary statistics on product order request dispositions over the reporting period.	T226-2.04.04
C-MSS-92290	The MSS Report Generation Service shall be capable of generating a Data Products Tracking Summary Report containing statistics on distribution of dataset orders by dataset type.	T226-2.04.05
C-MSS-92300	The MSS Report Generation Service shall be capable of generating a Returned Product Summary Report containing summary list of product returns with reason, cost, site action, and current status.	T226-2.04.06
C-MSS-92320	The MSS Report Generation Service shall be capable of generating a Trouble Status Report containing statistics on the number of trouble tickets opened, closed, and in work at a site and the average time to close a trouble ticket over the reporting period.	T226-2.05.02
C-MSS-92330	The MSS Report Generation Service shall be capable of generating an Ethernet Errors Report graphically depicting Ethernet error statistics for a selected node in real-time.	T226-2.05.03
C-MSS-92340	The MSS Report Generation Service shall be capable of generating an SNMP Errors report graphically depicting SNMP error statistics in real-time for the selected network nodes.	T226-2.05.04
C-MSS-92350	The MSS Report Generation Service shall be capable of generating an SNMP Authentication Failures Report listing the management systems that caused an authentication failure on the operator selected node(s).	T226-2.05.05
C-MSS-92360	The MSS Report Generation Service shall be capable of generating an SNMP Event Log Report containing a chronological list of SNMP events which occurred over the report interval for the selected node(s).	T226-2.05.06
C-MSS-92370	The MSS Report Generation Service shall be capable of generating a Site Host Errors Report containing a statistical summary of the types of errors logged at each host at a site over the reporting period.	T226-2.05.07
C-MSS-92380	The MSS Report Generation Service shall be capable of generating an EMC Host Errors Report containing a statistical summary of the types of errors logged at each site over the reporting period.	T226-2.05.08
C-MSS-92400	The MSS Report Generation Service shall be capable of generating a Data Accountability Audit Report tracing a data item's status changes/ accesses over the reporting interval.	T226-2.06.02

**Table B-1. Requirements Traceability Matrix (20 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
C-MSS-92410	The MSS Report Generation Service shall be capable of generating a Pending Service Request Audit Report tracing processing events for requests currently in-progress.	T226-2.06.03
C-MSS-92420	The MSS Report Generation Service shall be capable of generating a User Activity Audit Report tracing a user's activity during a logon including products requested and files accessed.	T226-2.06.04
C-MSS-92430	The MSS Report Generation Service shall be capable of generating a Security Audit Report.	T226-2.06.05
C-MSS-92440	The MSS Report Generation Service shall be capable of generating a User Characterization Report containing user statistical summary information on number of new/ repeat accesses and summary information by product interest, mode of access, and affiliation.	T226-2.04.07
C-MSS-92450	The MSS Report Generation Service shall be capable of generating a System Access Profile Report containing statistics on distribution of user accesses by system service type over the selected reporting interval.	T226-2.04.08
C-MSS-92460	The MSS Report Generation Service shall be capable of generating a Utilization of User Services Personnel Summary Report depicting the distribution of user services requests by request type and method of contact over the report interval.	T226-2.04.09
C-MSS-92470	The MSS Report Generation Service shall be capable of generating a Storage Management Activity Report containing a list of storage management events for the selected start/stop time, intermediate operation, request ID, and staging resource.	T226-2.07.01
C-MSS-92480	The MSS Report Generation Service shall be capable of generating a Storage Management Inventory Update Report containing the log of storage management inventory update events for the selected reporting period.	T226-2.07.02
C-MSS-92490	The MSS Report Generation Service shall be capable of generating an Ingest History Report containing the log of ingest events selected by start/stop time, external data provider, data type identifier, and request status.	T226-2.07.03
C-MSS-92500	The MSS Report Generation Service shall be capable of generating an Ingest Error Report containing the log of ingest error events for the reporting period.	T226-2.07.04
C-MSS-92510	The MSS Report Generation Service shall be capable of generating a Processing Log Report containing the log of product processing events selected by start/stop time, data type identifier, and processing status.	T226-2.07.05
C-MSS-92520	The MSS Report Generation Service shall be capable of generating a Production and Data Processing Request Status Report containing the list of pending production and user-requested product data processing requests.	T226-2.07.06
C-MSS-92530	The MSS Report Generation Service shall be capable of generating a Planning Workload and Processing Turn-Around Report.	T226-2.07.07

**Table B-1. Requirements Traceability Matrix (21 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
C-MSS-92540	The MSS Report Generation Service shall be capable of generating a Planning Management Report.	T226-2.07.08
C-MSS-92550	The MSS Report Generation Service shall be capable of generating an Account Authorization Report containing authorized resource usage and current balance by user/ group.	T226-2.07.09
C-MSS-92560	The MSS Report Generation Service shall be capable of generating a Service Cost Schedule Report containing resource usage cost by service offered.	T226-2.08.01
C-MSS-92570	The MSS Report Generation Service shall be capable of generating a Standard Product Cost Schedule Report containing end to end cost accounting information by standard product.	T226-2.08.02
C-MSS-92580	The MSS Report Generation Service shall be capable of generating an Accounts Payable Report by user/ group	T226-2.08.03
C-MSS-92590	The MSS Report Generation Service shall be capable of generating an Accounts Receivable Report by user/group	T226-2.08.04
C-MSS-92600	The MSS Report Generation Service shall be capable of generating a Functional Allocation Report containing current assignment of: #a. standard product generation/ storage responsibility to a segment/ element #b. assignment of science instrument support to an ICC	T226-2.07.10
C-MSS-92610	The MSS Report Generation Service shall be capable of generating a Configuration Status Report noting the operational status of all H/W, system S/W and science S/W with a reason why an item is not currently operational	T226-2.09.01
C-MSS-92620	The MSS Report Generation Service shall be capable of generating a System Information Report for a selected managed object containing name, description, contact person, location, and system object identification.	T226-2.09.02
C-MSS-92630	The MSS Report Generation Service shall be capable of generating an SNMP Event Notification report identifying the IP address(es) of the management system(s) to which the selected node is configured to send SNMP events.	T226-2.09.03
C-MSS-92640	The MSS Report Generation Service shall be capable of generating an Indentured Level of Assembly List Report for all managed configuration items (CIs).	T226-2.09.04
C-MSS-92650	The MSS Report Generation Service shall be capable of generating a Document Configuration Status Report containing the identity and status of documents associated with ECS resources.	T226-2.09.05
C-MSS-92660	The MSS report generation service shall be capable of generating a System Configuration Tracking Report noting the migration of upgrades into the operational environment.	T226-2.09.06
C-MSS-92670	The MSS Report Generation Service shall be capable of generating a Maintenance Schedule Report on H/W, system S/W and science S/W indicating the type of maintenance (i.e, routine, non-routine and upgrade)	T226-2.10.01

**Table B-1. Requirements Traceability Matrix (22 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
C-MSS-92680	The MSS Report Generation Service shall be capable of generating a Training Program Report containing #a. Training programs #b. Training schedules #c. Training course contents #d. Training course locations #e. Training attendees	T226-2.10.02
C-MSS-92690	The MSS Report Generation Service shall be capable of generating an Inventory Status Report containing summary and detailed status information on H/W, system S/W and science S/W and listing spares and consumables status at sites.	T226-2.10.03
C-MSS-92700	The MSS Report Generation Service shall be capable of generating a Security Compromise Report listing occurrences of login failures, unauthorized accesses, breakins, viruses and worms indicating time, cause, impact, resolution status, and results of security compromise risk analysis.	T226-2.11.01
C-MSS-92710	The MSS Report Generation Service shall be capable of generating a Security Compromise Statistics Report containing cumulative frequency of violation occurrence statistics by type, site, day of week, and successful/failure.	T226-2.11.02
C-MSS-92720	The MSS Report Generation Service shall be capable of generating a Virus Detection Report containing statistics on detected viruses/worms in the selected network nodes and actions taken.	T226-2.11.03
S-CLS-00080	The DESKT CI shall provide a GUI interface with self-explanatory error messages.	T213-1.01.11
S-CLS-00150	The DESKT CI shall provide container desktop objects.	T213-1.02.01 T213-1.02.02 T213-1.02.03
S-CLS-00160	The DESKT CI shall provide document desktop objects.	T213-1.02.01 T213-1.02.02 T213-1.02.03
S-CLS-00170	The DESKT CI shall provide application desktop objects.	T213-1.02.01 T213-1.02.02 T213-1.02.03
S-CLS-00180	The DESKT CI shall provide users the capability to execute software associated with a desktop object.	T213-1.02.04
S-CLS-00190	The DESKT CI shall provide users the capability to create desktop objects.	T213-1.02.01
S-CLS-00200	The DESKT CI shall provide users the capability to destroy desktop objects.	T213-1.02.02
S-CLS-00210	The DESKT CI shall provide users the capability to open desktop objects.	T213-1.02.03
S-CLS-00220	The DESKT CI shall provide users the capability to copy the reference to objects for a desktop object.	T213-1.02.05
S-CLS-00230	The DESKT CI shall provide users the capability to copy a desktop object.	T213-1.02.06
S-CLS-00240	The DESKT CI shall provide users the capability to deep copy a desktop object.	T213-1.02.06

**Table B-1. Requirements Traceability Matrix (23 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-CLS-00250	The DESKT CI shall provide users the capability to move desktop objects.	T213-1.02.07
S-CLS-00260	The DESKT CI shall provide users the capability to obtain desktop object data associated with desktop objects.	T213-1.02.08
S-CLS-00270	The DESKT CI shall provide users the capability to update desktop object data associated with desktop objects.	T213-1.02.08
S-CLS-00280	The DESKT CI shall provide users the capability to list the available services associated with any desktop object.	T213-1.02.09
S-CLS-00290	The DESKT CI shall provide users the capability to bind a service to a desktop object.	T213-1.02.09
S-CLS-00295	The DESKT CI shall provide users the capability to unbind a service from a desktop object.	T213-1.02.10
S-CLS-00300	The DESKT CI shall provide users the capability to invoke any service bound to a desktop object.	T213-1.02.11
S-CLS-00310	The DESKT CI shall provide users the capability to generate an exchangeable (i.e., file based) form for desktop objects.	T213-1.01.08
S-CLS-00320	The DESKT CI shall provide users the capability to generate a desktop object from an externalized (i.e., file-based) format.	T213-1.01.08
S-CLS-00330	The DESKT CI shall provide users the capability to add desktop objects to container objects.	T213-1.02.01 T213-1.02.07
S-CLS-00340	The DESKT CI shall provide users the capability to remove desktop objects from container objects.	T213-1.02.02 T213-1.02.07
S-CLS-00360	The DESKT CI shall provide users the capability to search container objects for objects which satisfy a user specified Search Criteria.	T213-1.01.01
S-CLS-00370	The DESKT CI shall provide users the capability to browse the objects contained in container objects.	T213-1.01.02
S-CLS-00380	The DESKT CI shall provide users the capability to display on a continuous basis the objects contained in container objects.	T213-1.01.03
S-CLS-00390	The DESKT CI shall provide the capability to iconically represent desktop objects.	T213-1.01.03
S-CLS-00400	The DESKT CI shall provide the capability to textually represent desktop objects.	T213-1.01.03
S-CLS-00410	The DESKT CI shall provide the users the capability to list object types supported by a specific application or service class.	T213-1.01.04
S-CLS-00420	The DESKT CI shall provide the users the capability to list applications or service classes supported by a specific object type.	T213-1.01.05
S-CLS-00430	The DESKT CI shall provide the users the capability to add applications or services supported by a specific object type.	T213-1.01.06
S-CLS-00440	The DESKT CI shall provide the users the capability to remove applications or services supported by a specific object type.	T213-1.01.07
S-CLS-00450	The DESKT CI shall provide users the capability to install an application interface (i.e., an application and its parameterized interface description).	T213-1.03.01

**Table B-1. Requirements Traceability Matrix (24 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-CLS-00460	The DESKT CI shall provide users the capability to remove an application interface.	T213-1.03.02
S-CLS-00470	The DESKT CI shall provide users the capability to obtain the attributes associated with an application interface.	T213-1.03.03
S-CLS-00490	The DESKT CI shall provide users the capability to modify the attributes associated with an application interface.	T213-1.03.03
S-CLS-00640	The DESKT CI shall provide users the capability to obtain a description of the interaction between the Workbench and specified tools.	T213-1.01.09
S-CLS-00790	The DESKT CI shall provide users the capability to transition from the user session currently active on the desktop to another user session, by means of a single mouse click.	T211-1.02.04 T213-1.01.13
S-CLS-01360	The DESKT CI shall provide users the capability to mail desktop objects	T213-1.01.08
S-CLS-01450	Desktop objects shall utilize a <TBD> external format.	T213-1.01.03
S-CLS-01460	Desktop object references shall be in <TBD> format.	T213-1.01.03
S-CLS-01480	The DESKT CI shall utilize an X-windows windowing interface for the GUI.	T213-1.01.03
S-CLS-01500	The DESKT CI user interface shall conform to the guidelines in Version 4.0 of the ECS User Interface Style Guide (June 1, 1994).	T213-1.01.03
S-CLS-01550	The DESKT CI shall provide the user the capability to copy ECS services onto his desktop, iconize them, and save them as desktop objects.	T213-1.02.01
S-CLS-01560	The DESKT CI shall provide the user the capability to access a service via the previously saved desktop object representing that service.	T213-1.02.11
S-CLS-10010	The WKBCH CI shall provide the capability for users to compose Search Requests based on product specific and core metadata attributes.	T221-1.01.01 T221-1.01.02 T221-1.01.03 T221-2.01.01 T221-2.01.02 T221-2.01.03 T221-2.01.04
S-CLS-10070	The WKBCH CI shall support point-and-radius criteria for query of geographic Metadata by text and graphical input.	T221-2.01.02
S-CLS-10080	The WKBCH CI shall support polygonal coordinate criteria for query of geographic Metadata by graphical input.	T221-2.01.05
S-CLS-10090	The WKBCH CI shall support query of geographic Metadata by geographic name by text input.	B223.03.01
S-CLS-10140	The WKBCH CI shall support wildcard construct (prefix, embedded, suffix) matching criteria for query of non-geographic Metadata.	B223.03.02
S-CLS-10150	The WKBCH CI shall support character range matching criteria for query of non-geographic Metadata.	T221-2.02.01 T221-2.02.02
S-CLS-10170	The WKBCH CI shall support min/max range Search Criteria for query of numerical non-geographic Metadata.	B223.03.02

**Table B-1. Requirements Traceability Matrix (25 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-CLS-10180	The WKBCH CI shall support any combination of exact word match, exact phrase match, character set, wildcard, character range, logical and boolean operator, and min/max range Search Criteria for query of non-geographic Metadata.	B223.03.02
S-CLS-10190	The WKBCH CI shall provide the capability for users to compose searches across multiple data sets for coincident occurrences of data in space, time, or any other searchable Metadata attribute(s).	T221-1.03.01
S-CLS-10200	The WKBCH CI shall provide users the capability to search and view a products processing history.	B223.03.08
S-CLS-10210	The WKBCH CI shall provide users the capability to search for Science Processing Library holdings	B223.03.05
S-CLS-10220	The WKBCH CI shall allow users to formulate a Data Request based on the results of searching the inventory core metadata attributes and inventory product specific metadata attributes.	B223.03.04
S-CLS-10230	The WKBCH CI shall provide the capability for users to preview billing costs for non-EOSDIS Data Products prior to Data Request submission.	B223.03.53
S-CLS-10240	The WKBCH CI shall provide the capability for users to request subsetted, subsampled, and summary products.	T221-3.04.09
S-CLS-10250	The WKBCH CI shall automatically provide the user an estimate of how long it will take before products are ready for delivery.	B223.03.39
S-CLS-10260	The WKBCH CI shall provide the capability for users to issue Data Requests for Data Products that are generated on demand.	T221-3.04.10
S-CLS-10280	The WKBCH CI shall provide users the capability to create, cancel, renew, update and list the contents of Subscriptions, including standing requests.	T216-1.02.01 T216-1.02.02 T216-1.02.03 T216-1.02.04 T216-1.02.05 T216-1.02.06 T216-1.02.07
S-CLS-10310	The WKBCH CI shall provide users the capability of positioning the cursor by entering an image X,Y coordinate.	T213-2.05.06
S-CLS-10320	The WKBCH CI shall provide users the option to display Latitude/Longitude pairs as symbols, displayed in their proper geolocation on all visualizations produced by the WKBCH CI.	T213-2.05.02
S-CLS-10460	The WKBCH CI shall provide users Lat/Long lists for the production of built-in vector overlays as part of the application.	T213-2.05.03
S-CLS-10470	The WKBCH CI shall provide users the capability to display browse information in vector graphic format.	T213-2.07.01
S-CLS-10480	The WKBCH CI shall provide the capability of displaying ECS supported visualization data as a series of lineplots.	T213-2.04.06
S-CLS-10490	The WKBCH CI shall provide the capability of displaying a horizontal or vertical profile through a pseudocolor image.	T213-2.02.03

**Table B-1. Requirements Traceability Matrix (25 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-CLS-10500	The WKBCH CI shall provide the capability of displaying multi-dimensional arrays of data as a series of two-dimensional pseudocolor images.	T213-2.02.05
S-CLS-10510	The WKBCH CI shall provide the capability of importing color palettes.	T213-2.01.01
S-CLS-10520	The WKBCH CI shall provide the capability for modifying the color palette.	T213-2.01.02
S-CLS-10530	The WKBCH CI shall provide the capability of modifying the pseudocolor mapping by changing the data min/max values.	T213-2.02.01
S-CLS-10540	The WKBCH CI shall provide the capability of modifying the pseudocolor mapping by adaptive equalization.	T213-2.02.02
S-CLS-10550	The WKBCH CI shall provide users the capability of calculating summarizing statistics of multi-dimensional arrays of EOS data.	T213-2.06.01
S-CLS-10560	The WKBCH CI shall provide the capability of calculating summarizing statistics of user-selected columns from tables of values of EOS data.	T213-2.06.02
S-CLS-10570	The WKBCH CI shall produce visualizations of images needed for QA, validation, Algorithm development, calibration functions, parameter verification and anomaly detection.	T213-2.02.06
S-CLS-10580	The WKBCH CI shall produce visualizations of multi-dimensional arrays needed for QA, Validation, Algorithm development, calibration functions, parameter verification and anomaly detection.	T213-2.02.05
S-CLS-10590	The WKBCH CI shall produce visualizations of tables of numbers needed for QA, Validation, Algorithm development, calibration functions, parameter verification and anomaly detection.	T213-2.02.07
S-CLS-10600	The WKBCH CI shall display the Latitude and Longitude coordinates of the cursor, when the cursor is inside an EOS Grid array.	T213-2.05.01
S-CLS-10610	The WKBCH CI shall provide users the capability of positioning the cursor by entering a Latitude/Longitude value.	T213-2.05.04
S-CLS-10615	The WKBCH CI shall provide users the capability of positioning the cursor by entering instrument scan line.	T213-2.05.05
S-CLS-10630	The system shall provide users a Training Option	T211-1.03.03
S-CLS-10640	The Training option shall consist of simulated user sessions for identifying, searching for and obtaining data and services.	T211-1.03.03
S-CLS-10730	The WKBCH CI shall provide users the capability to search data dictionary information to obtain the precise definitions of terms used within ECS.	B223.03.10
S-CLS-10770	The WKBCH CI shall support hierarchical searching of documents in HTML format.	B223.03.06
S-CLS-10860	The WKBCH CI shall provide users the capability to display processing schedules.	B223.03.46
S-CLS-10870	The WKBCH CI shall provide users the capability to display data acquisition plans and schedules.	T216-6.02.01

**Table B-1. Requirements Traceability Matrix (27 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-CLS-10880	The WKBCH CI shall provide users the capability to display documentation on data formats and Metadata standards.	T211-3.09.01
S-CLS-10890	The WKBCH CI shall provide users the capability to display ESDIS Project Policies and Procedures.	T211-3.09.02
S-CLS-10930	The WKBCH CI shall provide users the capability to search inventory based on any combination of the inventory core metadata attributes and inventory product specific metadata attributes.	T221-2.04.01
S-CLS-10950	The WKBCH CI shall provide the capability for users to submit Subscription Requests for periodic delivery of data described by Advertisements.	T216-1.02.02
S-CLS-10970	The WKBCH CI shall provide the capability for the user to request standard product software and associated documentation to be distributed on-line.	B223.03.29
S-CLS-10980	The WKBCH CI shall provide the capability for the user to request standard product software and associated documentation to be distributed off-line (i.e. media).	B223.03.29
S-CLS-11000	The WKBCH CI shall provide the capability to submit Subscription Requests for on-demand processing of ECS data by pre-existing processes.	T216-1.02.02
S-CLS-11020	The WKBCH CI shall provide users Data Request Status at the conclusion of the processing of a Data Requests.	B223.03.47 B229.01.01
S-CLS-11030	The WKBCH CI shall provide the capability for users to determine reprocessing status of products which are being reprocessed.	B223.03.48 B229.01.02
S-CLS-11040	The WKBCH CI shall provide users the capability to obtain Search Request Status during the processing of a Search Request initiated by the user.	T216-1.06.04
S-CLS-11050	The WKBCH CI shall provide users the capability to obtain and review User Session Logs for their own sessions.	T211-1.01.03
S-CLS-11080	The WKBCH CI shall provide the capability for users to obtain their current account balance.	T211-3.04.01
S-CLS-11090	The WKBCH CI shall provide users the capability to display their account history.	T211-3.04.02
S-CLS-11100	The WKBCH CI shall accept from the users user feedback information, on product data quality assessment and output it to the SMC.	T211-3.03.01
S-CLS-11110	The WKBCH CI shall accept from the users user feedback information, on schedule performance assessment and output it to the SMC.	T211-3.03.01
S-CLS-11120	The WKBCH CI shall accept from the users user feedback information, on ECS service quality evaluation and output it to the SMC.	T211-3.03.01
S-CLS-11130	The WKBCH CI shall provide the capability for authorized users to construct and submit Production Requests.	B223.03.30

**Table B-1. Requirements Traceability Matrix (28 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-CLS-11140	The WKBCH CI shall provide the capability for users to update Distribution Requests prior to the shipment of Data.	B223.03.38
S-CLS-11150	The WKBCH CI shall provide product delay notification to users to notify them when products will not be distributed within the estimated time.	B223.03.51
S-CLS-11160	The WKBCH CI shall provide authorized users the capability to request priority processing of Production Requests.	B223.03.36
S-CLS-11170	The WKBCH CI shall display to users a processing status message to confirm or reject a Production Request.	B223.03.30 B223.03.31 B223.03.32 B223.03.33 B223.03.37
S-CLS-11190	The WKBCH CI shall provide the capability for users to submit a Conflict Adjudication Request to the SMC, in the event a processing conflict cannot be resolved between the SDSRV CI, the science user, and the Data Processing Subsystem.	B223.03.52 B229.01.05
S-CLS-11200	The WKBCH CI shall provide users a Conflict Adjudication Response from the SMC after submitting a Conflict Adjudication Request.	B223.03.52 B229.01.05
S-CLS-11210	The WKBCH CI shall provide users a Notification when requests for data processing will not be completed within the estimated time.	B223.03.50 B229.01.04
S-CLS-11220	The WKBCH CI shall provide the capability for users to issue Production Requests for the ad-hoc processing of subsetted, subsampled, and summary products based on geographical location (x, y, z - spatial with rectangular boundaries).	B223.03.31
S-CLS-11230	The WKBCH CI shall provide the capability for users to issue Production Requests for the ad-hoc processing of subsetted, subsampled, and summary products based on spectral band.	B223.03.32
S-CLS-11240	The WKBCH CI shall provide the capability for users to issue Production Requests for the ad-hoc processing of subsetted, subsampled, and summary products based on time.	B223.03.33
S-CLS-11250	The WKBCH CI shall provide a capability to submit Subscription Requests for the distribution of ECS data.	T216-1.02.02
S-CLS-11260	The WKBCH CI shall provide the capability for users to update Subscriptions for the distribution of ECS data.	T216-1.02.06
S-CLS-11270	The WKBCH CI shall provide users the capability to terminate their Subscriptions for on demand processing.	T216-1.02.03
S-CLS-11280	The WKBCH CI shall provide users the capability to modify their Subscriptions for on demand processing.	T216-1.02.06
S-CLS-11285	The WKBCH CI shall provide users the capability to create documents in HTML format.	B215.02.04 B223.03.60
S-CLS-11290	The WKBCH CI shall provide a capability to translate user input Search Criteria into ECS internal query language.	T221-1.01.01

**Table B-1. Requirements Traceability Matrix (29 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-CLS-12070	The WKBCH CI shall provide a GUI interface with capability to save and restore the contents of data search and order forms.	T211-3.09.03
S-CLS-12110	The WKBCH CI shall provide a GUI interface with a command language.	T211-3.09.04
S-CLS-12480	The WKBCH CI shall provide the capability to request any of the services available for the individual items in the output of a Metadata search.	B223.03.07
S-CLS-12500	The WKBCH CI shall provide users an interface to APIs for use in non-interactive remote user sessions.	T211-1.03.04
S-CLS-12530	The WKBCH CI shall provide users the capability to simultaneously view Search Results and Production Requests.	T211-3.09.05
S-CLS-12540	The WKBCH CI shall support multiple concurrent user sessions.	T211-1.02.01 T211-1.02.02 T211-1.02.03 T211-1.02.04 T211-1.02.05 T211-1.02.06
S-CLS-12550	The WKBCH CI shall support multiple concurrent Service Requests.	T211-3.05.01
S-CLS-12560	The WKBCH CI shall provide the capability to save information selected in prior Metadata searches for use in subsequent Service Requests.	T211-3.05.01
S-CLS-12570	The WKBCH CI shall provide users interactive user sessions.	T211-1.03.05
S-CLS-12580	The WKBCH CI shall provide a user session management capability to transition between user sessions.	T211-1.02.04
S-CLS-12670	The WKBCH CI shall provide users the capability to enable the logging of Service Requests, Service Request Status, and Notifications to the User Session Log.	T211-1.01.01
S-CLS-12680	The WKBCH CI shall provide users the capability to disable logging to the User Session Log.	T211-1.01.02
S-CLS-12690	The WKBCH CI shall provide users the capability to replay the User Session Log.	T211-1.01.04
S-CLS-12700	The WKBCH CI shall provide users the capability to obtain information about all their user sessions.	T211-1.02.03
S-CLS-12720	The WKBCH CI shall provide users the capability to rebuild a user session context.	T211-1.03.01
S-CLS-12730	The WKBCH CI shall be able to accept Notifications of events associated with Service Requests or sessions	T211-3.06.01
S-CLS-12740	The WKBCH CI shall be able to display such event Notifications to the user and accept input from the user where these events require instructions from the user, e.g., when a request exceeds a client specified threshold, and provide such feedback to the service which sent the event..	T211-3.06.01 T211-3.06.02

**Table B-1. Requirements Traceability Matrix (30 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-CLS-12760	The WKBCH CI shall provide users the capability to suppress the display of event Notifications if the Notifications do not require user input or if the user has defined default instructions, by type of event and session..	T211-3.06.03
S-CLS-12800	The WKBCH CI library shall provide a capability to interactively display interrupt messages.	T211-3.09.06
S-CLS-12810	The WKBCH CI shall provide a dumb terminal interface with minimal and consistent use of non-standard keys.	T211-3.07.02
S-CLS-12820	The WKBCH CI shall provide a dumb terminal interface with capability to save and restore the contents of a menu or form.	T211-3.07.01
S-CLS-12830	The WKBCH CI shall provide a dumb terminal interface with standardized use of commands and terminology across screens.	T211-3.07.03
S-CLS-12840	The WKBCH CI shall provide a dumb terminal interface with self-explanatory, meaningful error messages.	T211-3.07.04
S-CLS-12850	The WKBCH CI shall provide a dumb terminal interface with availability of a menu tree diagram.	T211-3.07.05
S-CLS-12860	The WKBCH CI shall provide a dumb terminal interface with a command language.	T211-3.07.06
S-CLS-12870	The WKBCH CI shall support a dumb terminal interface that provides users system access from local and remote dumb terminals.	T211-3.07.07
S-CLS-13010	The WKBCH CI shall provide application program interfaces that will support development of extensions for support of data visualization utilities for DAAC-specific products.	T211-3.10.01 B223.03.55
S-CLS-13040	The WKBCH CI shall provide application program interfaces that will support development of a local user interface client accessing DAAC-unique Metadata searching services.	T211-3.10.02 B223.03.56
S-CLS-13050	The WKBCH CI shall provide application program interfaces that will be capable of supporting the development of a local user interface that can bypass the delivered ECS user interface for accessing DAAC-unique Metadata searching services.	T211-3.10.03 B223.03.57
S-CLS-13060	The WKBCH CI shall provide the user the capability to view the service availability status of all ECS services.	T211-3.09.07
S-CLS-13090	The WKBCH CI shall perform registration of new users from user supplied and default information.	T211-2.01.01 T211-2.01.02
S-CLS-13115	The WKBCH CI shall provide registered users with the capability to request changes to their user account priorities and authorized user services.	T211-2.03.02
S-CLS-13160	The WKBCH CI shall provide users the capability to terminate user sessions with service providers.	T211-1.02.06
S-CLS-13170	The WKBCH CI shall provide users the capability to initiate user sessions with service providers.	T211-1.02.01

**Table B-1. Requirements Traceability Matrix (31 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-CLS-13200	The WKBCH CI shall provide users the capability to obtain the status information about user sessions with service providers.	T211-1.02.03
S-CLS-13210	The WKBCH CI shall provide users the capability to connect to an existing user session.	T211-1.02.04
S-CLS-13220	The WKBCH CI shall provide users the capability to issue Service Requests within the context of a user session.	T211-1.03.02
S-CLS-13230	The WKBCH CI shall provide users the capability to cancel any time-intensive Service Requests by issuing a Cancellation Request.	T211-3.05.02
S-CLS-13240	The WKBCH CI shall provide users the capability to individually suspend and restore the Service Requests within a user session after interruption.	T211-3.05.03
S-CLS-13250	The WKBCH CI shall provide users the capability to view DAR generation information during the DAR planning and submittal process.	T216-6.02.01
S-CLS-13352	The WKBCH CI shall provide access to USENET newsgroups.	T211-3.02.01
S-CLS-13354	The WKBCH CI shall provide a WAIS client.	T211-3.02.02
S-CLS-13370	The WKBCH CI shall provide users an interface for user authentication.	T211-3.01.02 T211-3.01.03
S-CLS-13380	The WKBCH CI shall send User Authentication Requests to the SMC.	T211-3.01.02 T211-3.01.03
S-CLS-13390	The WKBCH CI shall allow or deny the user system access based on User Validation Status returned from CSMS.	T211-3.01.02 T211-3.01.03
S-CLS-13400	The WKBCH CI shall obtain user authentication information from the user.	T211-3.01.02 T211-3.01.03
S-CLS-13460	The WKBCH CI shall provide users the capability to create a Session Profile for each user session. The Session Profile shall be able to contain any of the parameters which are in the User Profile and which may apply as defaults to ECS Service Requests.	T211-1.02.05 T211-1.03.06
S-CLS-13470	The user interface shall employ the defaults specified in the Session Profile to assist the user in the formulation of a new request in the context of a user session (e.g., by displaying them as default values in the respective input fields).	T211-1.02.01
S-CLS-13480	Users shall be able to save Search Request parameters at any time during the formulation of the Search Request.	T221-3.04.01
S-CLS-13490	Users shall be able to retrieve any previously saved Search Request parameters into a new Search Request, edit the parameters, save the modified parameters, and/or submit the new Search Request.	T221-3.04.02
S-CLS-13500	Users shall be able to save the results of Search Requests.	T221-3.04.03
S-CLS-13510	Users shall be able to retrieve saved Search Results, delete items from the Search Result, and save the modified result.	T221-3.04.04
S-CLS-13520	Users shall be able to save selected portions of a Search Result.	T221-3.04.05
S-CLS-13530	Users shall be able to combine Search Results.	T221-3.04.06

**Table B-1. Requirements Traceability Matrix (32 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-CLS-13540	Users shall be able to select Data Granules from multiple saved Search Results and submit a single Data Request for these Data Granules.	T221-2.01.01
S-CLS-13550	The WKBCH CI shall provide users the capability to search Production History on any combination of Production History Metadata attributes.	B223.03.08
S-CLS-13560	The WKBCH CI shall allow users to search the holdings of ECS using Phenomenological Search Criteria for attributes supported by Data Server Schema.	B223.03.03
S-CLS-13580	The WKBCH CI shall provide users the capability to graphically represent data availability for products(s) vs. time.	T221-3.02.01
S-CLS-13590	The WKBCH CI shall provide users the capability to graphically view the temporal extent of Data Granules.	T221-3.02.02
S-CLS-13600	The WKBCH CI shall display the cost estimates for Data specified in Distribution Requests prior to the submission of the Search Request.	B223.03.54
S-CLS-13610	When users submit a Distribution Request, they shall be given an opportunity to review the total amount that will be billed for the order and affirm, cancel or modify the Search Request.	B223.03.54
S-CLS-13620	The WKBCH CI shall provide the capability to visualize Data Products as continuous forward animation.	T213-2.04.01
S-CLS-13630	The WKBCH CI shall provide the capability to visualize Data Products as single step forward animation.	T213-2.04.02
S-CLS-13640	The WKBCH CI shall provide the capability to visualize Data Products as single step backward animation.	T213-2.04.03
S-CLS-13650	The WKBCH CI shall provide the capability to visualize Data Products as oscillating animation (i.e., continuous forward then continuous backward, alternating throughout the loop until user-directed termination).	T213-2.04.04
S-CLS-13660	The WKBCH CI shall provide users the capability to change the minimum/maximum values of the color tables for visualization of Data Products.	T213-2.01.02
S-CLS-13670	The WKBCH CI shall provide users the capability to modify color palettes for visualization of Data Products.	T213-2.01.02
S-CLS-13680	The WKBCH CI shall allow users to access the Data Dictionary Service.	T216-5.04.01
S-CLS-13700	Overlays provided for display to users shall be continuous over the entire display area, regardless of any gaps in the science data, for data following HDF-EOS geolocation conventions.	T213-2.02.08
S-CLS-13730	Users shall be able to request an update of the status of a previously submitted Search Request.	T221-3.04.07
S-CLS-13740	Users shall be able to request that the workbench poll the status of a Search Request at a user selectable time interval.	T221-3.04.08
S-CLS-13760	The WKBCH CI shall provide users the capability to issue a Subscription Request for revisions of a given document.	B223.03.41

**Table B-1. Requirements Traceability Matrix (33 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-CLS-13770	The WKBCH CI shall provide users the capability to issue a Subscription Request for new documents, based on topical keywords.	B223.03.42
S-CLS-13780	When submitting Distribution Requests, users shall be able to request inclusion of Universal References to the appropriate documentation for this data, the tools needed to read this data, and an ASCII file describing each of these references.	B223.03.37
S-CLS-13790	The WKBCH CI shall provide users the capability to parameterize ASTER DARS with ASTER DAR Parameters.	B223.03.17
S-CLS-13800	The WKBCH CI shall provide the capability for users to construct a Subscription Request associated with a Data Acquisition Request.	B223.03.28
S-CLS-13810	The WKBCH CI shall accept Service Requests for Subscriptions for Data.	B223.03.43
S-CLS-13820	The WKBCH CI shall accept Service Requests for changes to existing DARs from the science user.	B223.03.43
S-CLS-13830	The WKBCH CI shall make ASTER data acquisition schedules and plans accessible to authorized users on request.	B223.03.27
S-CLS-13840	The WKBCH CI shall display data acquisition schedules as timelines.	T216-6.02.01
S-CLS-13850	The WKBCH CI shall provide users the capability to access the Guide during DAR formulation and submittal.	B223.03.21
S-CLS-13860	The WKBCH CI shall provide EOS-AM spacecraft location projections as an reference aid to the creation of ASTER Data Acquisition Requests	B223.03.20
S-CLS-13870	The WKBCH CI shall provide visualizations of ASTER instrument nominal view swaths and non-nominal view swaths based on user supplied angle as a reference aid to the creation of ASTER DARs.	B223.03.22
S-CLS-13880	The WKBCH CI shall provide instrument specific default settings for DAR instrument configurable parameters.	B223.03.16
S-CLS-13890	The WKBCH CI shall provide users the capability to view Valid Values for DAR Parameters.	B223.03.13
S-CLS-13900	The WKBCH CI shall constraint check and validate DAR Parameters.	B223.03.14
S-CLS-13920	The WKBCH CI shall provide DAR Disposition in response to the submittal of a DAR. This may be e-mail notification.	B223.03.15
S-CLS-13930	The WKBCH CI shall be expandable to make accessible to authorized users the current data acquisition schedules and plans for U.S. instruments on foreign spacecraft for the IP Information Management System or an equivalent IP facility.	B223.03.27
S-CLS-13940	The WKBCH CI shall display DAR status when requested by users.	B223.03.26
S-CLS-13950	The WKBCH CI shall provide the user the capability to view the Data Requests recorded in the User Session Log.	T216-1.06.04
S-CLS-13960	The WKBCH CI shall provide the user the capability to view the DARs recorded in the User Session Log.	B223.03.25

**Table B-1. Requirements Traceability Matrix (34 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-CLS-13980	The WKBCH CI shall provide a legend describing the display of a Data Product, in each window in which a Data Product is displayed.	T213-2.04.07
S-CLS-13990	The WKBCH CI shall provide users the capability to view resulting coverage on a map when a lat/lon selection is typed in for a search.	T221-3.02.06
S-CLS-14000	The WKBCH CI shall provide a user interface that indicates changes in status of an iconified window (e.g., additional results inserted into window).	T213-1.01.03
S-CLS-14010	The WKBCH CI shall prompt the user to save his/her edits when the user quits the editing of workbench objects (e.g., a Result Set or a Guide document), if there are any unsaved edits.	T213-1.02.03 T213-1.02.08
S-CLS-14030	The WKBCH CI shall provide users the capability to retrieve any previously saved Data Request parameters into a new Data Request, edit the parameters, save the modified parameters, and/or submit the new Data Request.	T221-3.04.02
S-CLS-14040	The WKBCH CI shall automatically add the date, time and client release version identification to User Comments.	T211-3.03.03
S-CLS-14200	The WKBCH CI shall provide the capability to retrieve User Comments based on author, subject and date/time.	T211-3.03.02
S-CLS-14240	The DESKT CI shall issue periodic Distribution Status Requests for a user-specified Distribution Request, at time intervals specified by the user.	B223.03.49 B229.01.03
S-CLS-14250	The WKBCH CI shall provide users the capability to issue a Status Request to determine the status of any active Service Request.	T211-3.05.04
S-CLS-14400	Time-related data for DARs shall be synchronized so that selection of a time range on a DAR timeline tool will be translated into date/time ranges in a DAR submission window.	B223.03.18
S-CLS-14410	Time-related data for DARs shall be synchronized so that typing a date/time range in a DAR submission window will be graphically display as a blocked out time range on a DAR timeline window.	B223.03.18
S-CLS-14420	Geographic selection criteria for DARs shall be synchronized so that selection of an area on a DAR map display will be translated into lat/lon coordinates in a DAR submissions window.	B223.03.19
S-CLS-14430	Geographic selection criteria for DARs shall be synchronized so that typing lat/lon coordinates in a DAR submission window will be graphically displayed as a blocked out area on a DAR map display.	B223.03.19
S-CLS-14440	The WKBCH CI shall provide users the capability to retrieve any previously saved DAR parameters into a new DAR, edit the parameters, save the modified parameters, and/or submit the new DAR.	B223.03.14
S-CLS-14450	The WKBCH CI shall provide the capability for users to construct a Product Request associated with a DAR.	B223.03.24
S-CLS-14460	The WKBCH CI shall make spacecraft schedules accessible to authorized users on request.	B223.03.44
S-CLS-14470	The WKBCH CI shall display spacecraft schedules as timelines.	B223.03.45

**Table B-1. Requirements Traceability Matrix (35 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-CLS-14480	Time-related data for a Product Request shall be synchronized so that selection of a time range on a Product Request timeline tool will be translated into date/time ranges in a Product Request submission window.	B223.03.18
S-CLS-14490	Time-related data for a Product Request shall be synchronized so that a date/time range typed in a Product Request window will be graphically display as a blocked out time range on a Product Request timeline window.	B223.03.18
S-CLS-14500	Geographic selection criteria for a Product Request shall be synchronized so that selection of an area on a Product Request map display will be translated into lat/lon coordinates in a Product Request submissions window.	B223.03.19
S-CLS-14510	Geographic selection criteria for a DAR shall be synchronized so that typed lat/lon coordinates in a Product Request submission window will be graphically displayed as a blocked out area on a Product Request map display.	B223.03.19
S-CLS-14520	For WKBCH CI screens requiring user input, optional fields shall be distinguished from mandatory fields.	T211-3.05.04 T211-3.09.05 T213-1.01.03
S-CLS-14530	The WKBCH CI shall provide users access to Data Definitions of the following information at a minimum :#a._Earth Science Data Types and services descriptions#b._core metadata attribute definitions#c._valid values#d._synonyms for valid values#e._product specific metadata#	B223.03.12
S-CLS-14540	Standard Product related Metadata accesible to users shall include keywords and glossary from investigators.	B223.03.61
S-CLS-14550	Standard Product related Metadata accessible to users shall include of keywords, synonyms, and glossary for cross-product and cross-directory referencing.	B223.03.61
S-CLS-14570	The WKBCH CI shall provide users the capability to relate Phenomenological Search Criteria to Search Criteria containing values for searchable attributes supported in the Data Server Schema.	B223.03.03
S-CLS-14580	The WKBCH CI shall provide users a consistent view of data dictionary entries based on the value given for an attribute.	T216-5.04.01
S-CLS-14590	The WKBCH CI shall have the capability to send to the Data Dictionary CI, data dictionary information requests, consisting of any combination of the following: Earth Science Data Types, Core Metadata attribute, Product Specific Metadata.	B223.03.11
S-CLS-14600	The WKBCH CI shall have the capability to receive from the Data Dictionary CI	B223.03.09
S-CLS-15650	The WKBCH CI shall provide an interface for users to obain data products from the NOAA SAA.	T216-6.04.07
S-CLS-15660	The WKBCH CI shall be capable of receiving data products electronically.	B223.03.62

**Table B-1. Requirements Traceability Matrix (36 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-CLS-15670	The WKBCH CI shall provide an interface for users to obtain data products from the V0 system.	T216-6.03.06
S-CLS-15680	The WKBCH CI executables shall run on <TBD> hosts.	B223.03.63
S-CLS-15710	The WKBCH shall provide users access to ECS services via a network link.	B215.01.04 B223.03.64
S-CLS-15720	The WKBCH shall provide users access to ECS services via a direct connection.	B223.03.65
S-CLS-15730	Data requests to the NOAA SAA shall specify data distribution directly to the user or to a specified destination.	T216-6.04.04
S-CLS-15750	The WKBCH CI shall provide users confirmation or rejection of their data requests.	B223.03.30 B223.03.31 B223.03.32 B223.03.33 B223.03.37
S-CLS-15760	The WKBCH CI shall restrict users' access to data and services for which the users lack sufficient privileges.	T211-2.03.01
S-CLS-15770	The WKBCH CI shall provide the user the predicted time for resumption of ECS services which are temporarily unavailable.	B215.01.06 B223.03.67
S-CLS-15790	The WKBCH shall provide users access to ECS services via dialup link.	B215.01.05 B223.03.66
S-CLS-15810	The DESKT CI shall provide a menu tree diagram	T213-1.02.14
S-CLS-15820	The WKBCH CI shall provide users the amount of data expected to be returned as the result of a product request.	B223.03.40
S-CLS-15830	Data Distribution Requests shall contain requester identification, data type, data set identifier, data formats, distribution and media instructions, request priority, suggested earliest start time, and suggested latest completion time.	T216-1.06.01
S-CLS-15840	Confirmation or rejection of Product Requests shall contain requester identification, request identification, request status, and the reason for rejection if rejected.	B223.03.30
S-CLS-15870	The WKBCH CI shall provide applications program interfaces to provide support of DAAC specific data analysis utilities.	T211-3.10.05 B223.03.59
S-CLS-15880	The WKBCH CI shall provide applications program interfaces to support development of DAAC unique metadata search and access services that will operate independent of the delivered ECS services.	T211-3.10.04 B223.03.58
S-DMS-00010	The LIMGR CI shall provide capabilities to search and obtain data by science discipline.	T216-3.02.01 T221-1.01.01 T221-1.01.05
S-DMS-00020	The LIMGR CI shall accept Search Requests in the format defined in Appendix K OF REL B 304.	T216-3.02.02
S-DMS-00030	The LIMGR CI shall create an integrated schema from the exported schematas of the Data Servers.	T216-3.05.09
S-DMS-00040	The LIMGR CI shall determine which Data Servers are required in order to perform a Search Request and build a Site Query Plan as a result.	T216-3.02.03

**Table B-1. Requirements Traceability Matrix (37 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DMS-00050	The LIMGR CI shall initiate data provider data access and manipulation operations.	T216-3.02.01
S-DMS-00060	The LIMGR CI shall provide the capability to establish a session as the context for a series of Service Requests.	T216-3.03.01
S-DMS-00070	The LIMGR CI shall provide the capability to suspend an ongoing t session-.	T216-3.03.02
S-DMS-00080	The LIMGR CI shall provide the capability to resume a suspended session.	T216-3.03.03
S-DMS-00090	The LIMGR CI shall provide the capability to terminate an established client session.	T216-3.03.04
S-DMS-00100	The LIMGR CI shall accept search results from a Data Server, and provide capability, to integrate Search Results from a previous Search Request .	T216-3.02.04
S-DMS-00110	The LIMGR CI shall provide the capability to save the result of a Service Request for later reuse.	T216-3.04.06
S-DMS-00120	The LIMGR CI shall, upon request, provide the current Result Set (complete or incomplete) to the client or specified destination.	T216-3.04.08
S-DMS-00130	The LIMGR CI shall provide the capability, to terminate processing of an active or suspended Service Request.	T216-3.04.01
S-DMS-00140	The LIMGR CI shall provide the capability, to suspend processing of an active Service Request.	T216-3.04.02
S-DMS-00150	The LIMGR CI shall provide the capability, to resume processing of a previously suspended Service Request.	T216-3.04.03
S-DMS-00160	The LIMGR CI shall provide the capability, to estimate the resources required to execute a pending Service Request.	T216-3.04.04
S-DMS-00180	The LIMGR CI shall support interactive information management capabilities for administrators to retrieve information.	T216-3.01.04
S-DMS-00190	The LIMGR CI shall use the identification of the user on whose behalf a Service Request is issued as the basis for access control decisions.	T216-3.04.06
S-DMS-00200	The LIMGR CI shall forward the identification of the user on whose behalf a Service Request is issued to Data Servers for Service Requests issued on the behalf of the user.	T216-3.04.06
S-DMS-00210	The LIMGR CI internal data base management shall be expressed in a <TBD> standard query language	T216-3.05.05
S-DMS-00220	The LIMGR CI shall store, maintain and provide data management services for ECS local Schema.	T216-3.05.01
S-DMS-00230	The LIMGR CI shall provide the capability to integrate partial results within those Data Servers represented in its local Schema.	T216-3.05.08
S-DMS-00240	In the case of processing failures, upon restart the LIMGR CI shall complete all incomplete transactions without loss of data.	T216-3.02.07
S-DMS-00250	The LIMGR CI shall maintain query log files.	T216-3.02.08
S-DMS-00260	The LIMGR CI shall provide a capability to report status of Service Requests submitted to it.	T216-3.04.05

**Table B-1. Requirements Traceability Matrix (38 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DMS-00270	The LIMGR CI shall support revisions of its local Schema following Schema changes in the Data Servers represented in the LIMs local Schema.	T216-3.01.03
S-DMS-00280	The LIMGR CI shall provide a data administration utility for adding, deleting, modifying, and expanding individual Schema.	T216-3.01.01 T216-3.01.02 T216-3.01.03
S-DMS-00290	The LIMGR CI shall accept Service Requests, and provide capability, to find and retrieve a Schema entry from an integrated Schema.	T216-3.05.06
S-DMS-00300	The LIMGR CI shall provide the capability to search for Data Granules of EOSDIS data stored for all Data Servers represented in their local Schema.	T216-3.05.09
S-DMS-00470	The LIMGR CI shall support the interruption of any database administrative or maintenance activity and its restart without loss of information.	T216-3.02.10
S-DMS-00480	The LIMGR CI shall contribute to supporting the response time defined in Appendix E (Section E.7, Table E-8) of the Release B 304 document, for a single instrument inventory search consisting of multiple keyword attributes with time range check.	T216-3.06.01
S-DMS-00490	The LIMGR CI shall contribute to supporting the response time defined in Appendix E (Section E.7, Table E-8) of the Release B 304 document, for a multiple instrument inventory search consisting of multiple keyword attributes with time range check.	T216-3.06.02
S-DMS-00500	The LIMGR CI shall contribute to supporting the response time defined in Appendix E (Section E.7, Table E-8) of the Release B 304 document, in accepting from Data Servers a single instrument inventory result set consisting of multiple keyword attributes with special range check, integrating the results, and providing a complete result set.	T216-3.06.03
S-DMS-00510	The LIMGR CI shall contribute to supporting the response time defined in Appendix E (Section E.7, Table E-8) of the Release B 304 document, in accepting from Data Servers a multiple instrument inventory result set consisting of multiple keyword attributes with time range check, integrating the results, and providing a complete result set.	T216-3.06.04
S-DMS-00530	The LIMGR CI shall collect the management data used to support security management.	T216-3.09.01
S-DMS-00540	The LIMGR CI data accesses shall be subject to read access controls based on data types, user privileges, and data ownership.	T216-3.02.12
S-DMS-00550	The LIMGR CI shall provide a capability to decompose the Search Requests it receives into executable data base Queries.	T216-3.02.09
S-DMS-00560	The LIMGR CI shall provide the capability to manually abort any time-intensive operations.	T216-3.02.10
S-DMS-00570	The LIMGR CI shall provide integration, testing, and simulation status to the SMC.	T216-3.07.01
S-DMS-00580	The LIMGR CI shall provide maintenance status to the SMC.	T216-3.07.02

**Table B-1. Requirements Traceability Matrix (39 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DMS-00590	The LIMGR CI shall provide logistics status to the SMC.	T216-3.07.03
S-DMS-00600	The LIMGR CI shall provide training information to the SMC.	T216-3.07.04
S-DMS-00610	The LIMGR CI shall provide the capability to receive maintenance directives from the SMC.	T216-3.08.01
S-DMS-00620	The LIMGR CI shall provide the capability to receive directives for integration, testing, and simulation from the SMC.	T216-3.08.02
S-DMS-00630	The LIMGR CI shall provide the capability to receive configuration management directives from the SMC.	T216-3.08.03
S-DMS-00640	The LIMGR CI shall provide the capability to receive logistics management directives from the SMC.	T216-3.08.04
S-DMS-00650	The LIMGR CI shall provide the capability to receive fault management directives from the SMC.	T216-3.08.05
S-DMS-00660	The LIMGR CI shall provide the capability to receive security directives from the SMC.	T216-3.08.06
S-DMS-00670	The LIMGR CI shall provide the capability to receive training management directives from the SMC.	T216-3.08.07
S-DMS-00690	The LIMGR CI shall collect the management data used to support configuration management.	T216-3.09.02
S-DMS-00700	The LIMGR CI shall collect Accounting Management Data used to support accounting.	T216-3.09.03
S-DMS-00705	The LIMGR CI shall support operations staff in the creation of utilization reports, and the operations staff shall distribute them on a periodic basis to a predefined list of report recipients.	T216-3.02.11
S-DMS-00706	The LIMGR CI shall provide operations staff the capability to distribute utilization reports electronically, in hard copy, or on electronic media.	T216-3.02.05 T216-3.02.06
S-DMS-00710	The LIMGR CI shall collect Accountability Management Data and provide it to the MSS.	T216-3.09.04
S-DMS-00720	The LIMGR CI shall collect Performance Management Data and provide it to the MSS.	T216-3.09.05
S-DMS-00730	The LIMGR CI shall collect Scheduling Management Data and provide it to the MSS.	T216-3.09.06
S-DMS-00740	Partial results shall consist of Search Results accumulated to the time of the request for partial results, or Search Results accumulated since the last Search Request for partial results for that Search Request.	T216-3.05.10
S-DMS-00750	The LIMGR CI shall have the capability of creating, editing and deleting advertisements about itself and submitting them to the Advertising Service.	T216-3.02.13
S-DMS-00860	The LIMGR CI shall provide a capability to report the status of sessions established by it.	T216-3.03.06
S-DMS-00890	The LIMGR CI shall support multiple concurrent sessions.	T216-3.03.08
S-DMS-00895	The LIMGR CI shall support multiple service requests within a session.	T216-3.03.09

**Table B-1. Requirements Traceability Matrix (40 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DMS-00900	The LIMGR CI shall provide an application program interface for the submission of Service Requests.	T216-1.03.01
S-DMS-00910	The LIMGR CI shall provide an application program interface for the submission of requests for administrative services.	T216-1.03.02
S-DMS-00915	The LIMGR CI shall log the initiation of a session.	T216-3.02.14
S-DMS-00960	The LIMGR CI shall provide the capability for the operations staff to suspend all active sessions.	T216-3.03.05
S-DMS-00970	The LIMGR CI shall provide the capability for the operations staff to resume any or all sessions, previously suspended by operations staff or clients.	T216-3.03.11
S-DMS-00980	The LIMGR CI shall provide the capability for the operations staff to terminate any or all active or suspended sessions.	T216-3.03.12
S-DMS-00990	The LIMGR CI shall send Notifications to users via email in the event that a users's request or session is canceled by operations staff.	T216-3.04.07
S-DMS-01000	The LIMGR CI shall provide the capability to restore a session after interruption.	T216-3.03.13
S-DMS-10010	The DIMGR CI shall provide capabilities to search and obtain data across DAACs.	T216-4.02.01
S-DMS-10020	The DIMGR CI shall accept and execute Search Requests which require searching across DAACs.	T216-4.02.02
S-DMS-10030	The DIMGR CI shall compare received Search Requests to its federated Schema to determine to which LIMs or Data Servers the Search Request must be forwarded and generate a Distributed Query Plan.	T216-4.02.03
S-DMS-10040	Upon determining which LIMs are required to complete a Search Request, the DIMGR CI shall send to the requisite LIMs the portions of the original Search Request which apply to them.	T216-4.02.01
S-DMS-10050	The DIMGR CI shall monitor the progress of the Distributed Query Plan.	T216-4.02.07
S-DMS-10060	The DIMGR CI shall compile and manage the results of the Distributed Query Plan for the client which initiated it.	T216-4.02.08
S-DMS-10070	The DIMGR CI shall execute, monitor, and compile plan results without continuous connection with the client this capability shall allow the client to disconnect from and later reconnect to the DIM to retrieve the results.	T216-4.02.08
S-DMS-10090	The DIMGR CI shall store, maintain and provide data management services for ECS federated Schema.	T216-4.01.01 T216-4.01.03 T216-4.01.04
S-DMS-10100	The DIMGR CI shall provide the capability to abort any time-intensive operations.	T216-4.02.04
S-DMS-10110	The DIMGR CI shall provide the capability to integrate partial results from those LIMs represented in its federated Schema into a complete Result Set.	T216-4.01.12

**Table B-1. Requirements Traceability Matrix (41 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DMS-10120	In the case of processing failures, upon restart the DIM shall complete all incomplete transactions without loss of data.	T216-4.02.05
S-DMS-10130	The DIMGR CI shall maintain query log files.	T216-4.02.09
S-DMS-10140	The DIMGR CI shall provide a capability to report status of Search Requests submitted to it.	T216-4.04.07
S-DMS-10150	The DIMGR CI shall support revisions of its federated Schema following Schema changes in the LIMs represented in the DIM's federated Schema.	T216-4.01.13
S-DMS-10160	The DIMGR CI shall be able to receive the local Schema of LIMs in its federation from the LIM service.	T216-4.01.11
S-DMS-10170	The DIMGR CI shall create a union of the Schemata it receives from LIMs in its federation. This union is a federated Schema.	T216-4.01.06
S-DMS-10190	The DIMGR CI shall subscribe to the LIMs for any changes in LIM Schemata.	T216-4.01.07
S-DMS-10200	The DIMGR CI shall subscribe to the Advertising service for any additions or deletions of LIMs from its federation.	T216-4.01.08
S-DMS-10210	The DIMGR CI shall be able to add a LIM to its federation based on the subscription notifications it receives from the Advertising service..	T216-4.01.09
S-DMS-10220	The DIMGR CI shall provide an interface whereby a LIM may be deleted from the federation based on the subscription notifications it receives from the Advertising service..	T216-4.01.10
S-DMS-10240	The DIMGR CI shall provide a data administration utility for adding, deleting, modifying, and expanding an individual Schema.	T216-4.01.01
S-DMS-10250	The distributed Schema administrator shall maintain the federated Schema in the DIM.	T216-4.01.06
S-DMS-10260	The DIMGR CI shall provide an interface to the DIM administrator client whereby a LIM may be added to the federation.	T216-4.05.01
S-DMS-10270	The DIMGR CI shall provide an interface to the DIM administrator client whereby a LIM may be deleted from the federation.	T216-4.05.02
S-DMS-10280	The DIMGR CI shall provide an interface to the DIM administrator client whereby a LIM may be replaced in the federation.	T216-4.05.03
S-DMS-10290	The DIMGR CI shall provide an interface to the DIM administrator client whereby LIM information may be retrieved from the federation.	T216-4.05.04
S-DMS-10300	The DIMGR CI shall provide the capability to find and retrieve a Schema entry from an distributed Schema.	T216-4.05.05
S-DMS-10310	The DIMGR CI shall provide the capability to search for Data Granules of EOSDIS data stored across DAACs for specific science disciplines.	T216-4.02.06 T221-1.01.01 T221-1.01.05
S-DMS-10320	The DIMGR CI shall provide Service Request Status in response to Status Requests.	T216-4.04.05
S-DMS-10330	The DIMGR CI shall use the User Identifier for the user on whose behalf a Service Request is issued as the basis for access control decisions.	T216-4.04.10

**Table B-1. Requirements Traceability Matrix (42 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DMS-10340	The DIMGR CI shall forward the user's User Identifier in any Service Requests that it sends to the LIMGR CI on behalf of that user..	T216-4.04.09
S-DMS-10350	The DIMGR CI shall provide integration, testing, and simulation status to the SMC.	T216-4.07.01
S-DMS-10360	The DIMGR CI shall provide maintenance status to the SMC.	T216-4.07.02
S-DMS-10370	The DIMGR CI shall provide logistics status to the SMC.	T216-4.07.03
S-DMS-10380	The DIMGR CI shall provide training information to the SMC.	T216-4.07.04
S-DMS-10390	The DIMGR CI shall provide the capability to receive maintenance directives from the SMC.	T216-4.08.01
S-DMS-10400	The DIMGR CI shall provide the capability to receive, directives for integration, testing, and simulation from the SMC.	T216-4.08.02
S-DMS-10410	The DIMGR CI shall provide the capability to receive, configuration management directives from the SMC.	T216-4.08.03
S-DMS-10420	The DIMGR CI shall provide the capability to receive logistics management directives from the SMC.	T216-4.08.04
S-DMS-10430	The DIMGR CI shall provide the capability to receive fault management directives from the SMC.	T216-4.08.05
S-DMS-10440	The DIMGR CI shall provide the capability to receive security directives from the SMC.	T216-4.08.06
S-DMS-10450	The DIMGR CI shall provide the capability to receive training management directives from the SMC.	T216-4.08.07
S-DMS-10460	The DIMGR CI shall support the interruption of a database administrative or maintenance activity and its restart without loss of information.	T216-4.02.04
S-DMS-10470	The DIMGR CI shall contribute to supporting the response time defined in Appendix E (Section E.7, Table E-8) of the Release B 304 document, in accepting processing, and distributing to the LIMs multiple DAAC, single instrument inventory search consisting of multiple keyword attributes with special range check.	T216-4.06.01
S-DMS-10480	The DIMGR CI shall contribute to supporting the response time defined in Appendix E (Section E.7, Table E-8) of the Release B 304 document, in accepting, processing, and distributing to LIMs a multiple DAAC, multiple instrument inventory search consisting of multiple keyword attributes with time range check.	T216-4.06.02
S-DMS-10490	The DIMGR CI shall contribute to supporting the response time defined in Appendix E (Section E.7, Table E-8) of the Release B 304 document, in accepting from LIMs a multiple DAAC, single instrument Inventory result set consisting of multiple keyword attributes with spacial range check , integrate the results, and providing a complete result set.	T216-4.06.03

**Table B-1. Requirements Traceability Matrix (43 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DMS-10500	The DIMGR CI shall contribute to supporting the response time defined in Appendix E (Section E.7, Table E-8) of the Release B 304 document, in accepting from LIMs multiple DAAC, multiple instrument Inventory result set consisting of multiple keyword attributes with time range check , integrate the results, and providing a complete result set.	T216-4.06.04
S-DMS-10530	The DIMGR CI shall collect the management data used to support fault recovery management.	T216-4.09.01
S-DMS-10540	The DIMGR CI shall collect the management data used to support configuration management.	T216-4.09.02
S-DMS-10550	The DIMGR CI shall collect Accounting Management Data used to support accounting management.	T216-4.09.03
S-DMS-10555	The DIMGR CI shall support operations staff in the creation of utilization reports, and the operations staff shall distribute them on a periodic basis to a predefined list of report recipients.	T216-4.05.06
S-DMS-10556	The DIMGR CI shall provide operations staff with the capability to distribute DIMGR CI utilization reports eletronically or in hard copy or on electronic media.	T216-4.05.07 T216-4.05.08
S-DMS-10560	The DIMGR CI shall collect Accountability Management Data and provide it to the MSS.	T216-4.09.04
S-DMS-10570	The DIMGR CI shall collect Performance Management Data and provide it to the MSS.	T216-4.09.05
S-DMS-10580	The DIMGR CI shall collect Security Management Data and provide it to the MSS.	T216-4.09.07
S-DMS-10590	The DIMGR CI shall collect Scheduling Management Data and provide it to the MSS management data used to support scheduling management.	T216-4.09.06
S-DMS-10600	The DIMGR CI data accesses shall be subject to read access control based on user privileges.	T216-4.01.04
S-DMS-10650	The DIMGR CI shall initiate distributed data access and manipulation operations.	T216-4.02.01
S-DMS-10660	The DIMGR CI shall provide the capability establish a session as the context for a series of Service Requests.	T216-4.03.01
S-DMS-10670	The DIMGR CI shall provide the capability to suspend an ongoing session.	T216-4.03.02
S-DMS-10680	The DIMGR CI shall provide the capability to resume a suspended session.	T216-4.03.03
S-DMS-10690	The DIMGR CI shall provide the capability to terminate an established client session.	T216-4.03.04
S-DMS-10700	The DIMGR CI shall provide the capability to save the result of a Service Request for later reuse.	T216-4.04.04
S-DMS-10710	The DIMGR CI shall, upon request, provide the current Result Set (complete or incomplete) to the client or specified destination.	T216-4.04.08
S-DMS-10720	The DIMGR CI shall provide the capability, to terminate processing of an active or suspended Service Request.	T216-4.04.03

**Table B-1. Requirements Traceability Matrix (44 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DMS-10730	The DIMGR CI shall provide the capability, to suspend processing of an active Service Request.	T216-4.04.01
S-DMS-10740	The DIMGR CI shall provide the capability, to resume processing of a previously suspended Service Request.	T216-4.04.02
S-DMS-10750	The DIMGR CI shall provide the capability to estimate resources required to execute a pending Service Request.	T216-4.04.06
S-DMS-10760	Partial Results shall consist of Search Results accumulated to the time of the request for partial results, or Search Results accumulated since the last Request for partial results	T216-4.01.14
S-DMS-10860	The DIMGR CI shall provide a capability to report the status of sessions established by it.	T216-4.03.06
S-DMS-10890	The DIMGR CI shall support multiple concurrent sessions.	T216-4.03.08
S-DMS-10895	The DIMGR CI shall support multiple service requests within a session.	T216-4.03.09
S-DMS-10900	The DIMGR CI shall provide an application program interface for the submission of Service Requests.	T216-1.03.03
S-DMS-10910	The DIMGR CI shall provide an application program interface for the submission of requests for administrative services.	T216-1.03.04
S-DMS-10915	The DIMGR CI shall log the initiation of a session.	T216-4.02.10
S-DMS-10920	The DIMGR CI shall log the termination of a session.	T216-4.02.10
S-DMS-10930	The DIMGR CI shall log the suspension of a session.	T216-4.02.10
S-DMS-10940	The DIMGR CI shall log the resumption of previously suspended sessions.	T216-4.02.10
S-DMS-10960	The DIMGR CI shall provide the capability for the operations staff to suspend all active sessions.	T216-4.03.05
S-DMS-10970	The DIMGR CI shall provide the capability for the operations staff to resume any or all sessions, previously suspended by operations staff or clients.	T216-4.03.11
S-DMS-10980	The DIMGR CI shall provide the capability for the operations staff to terminate any or all active or suspended sessions.	T216-4.03.12
S-DMS-10990	The DIMGR CI shall send Notifications to users via email in the event that a users's request or session is canceled by operations staff.	T216-4.03.13
S-DMS-11000	The DIMGR CI shall provide the capability to restore a session after interruption.	T216-4.03.14
S-DMS-11010	The DIMGR CI shall log all Service requests received during a session.	T216-4.02.10
S-DMS-11020	The DIMGR CI shall log the suspension of processing of Service requests.	T216-4.02.10
S-DMS-11030	The DIMGR CI shall log the resumption of previously suspended Service requests.	T216-4.02.10
S-DMS-11040	The DIMGR CI shall log the termination of service requests.	T216-4.02.10

**Table B-1. Requirements Traceability Matrix (45 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DMS-20005	The DDICT CI shall provide access to Data Definitions of the following information at a minimum :#a._Earth Science Data Types and services descriptions#b._core metadata attribute definitions#c._valid values#d._synonyms for valid values#e._product specific metadata	T216-5.03.04
S-DMS-20030	The DDICT CI shall provide the capability to view data dictionary entries based on the Earth Science Data Types accessible by an instance of the Data Server.	T216-5.02.01
S-DMS-20040	The DDICT CI shall provide the capability to view data dictionary entries based on the Earth Science Data Types accessible by an instance of the LIM	T216-5.02.02
S-DMS-20050	The DDICT CI shall provide the capability to view data dictionary entries based on the Earth Science Data Types accessible by an instance of the DIM.	T216-5.02.03
S-DMS-20060	The DDICT CI shall provide the capability to define a global view of data dictionary entries based on the Earth Science Data Types accessible by the ECS	T216-5.02.05
S-DMS-20080	The DDICT CI shall provide consistent view of data dictionary entries based on the value given for an attribute.	T216-5.02.01
S-DMS-20090	The DDICT CI shall provide the capability to define data dictionary contexts based on science disciplines, site, and instrument.	T216-5.06.01
S-DMS-20110	The DDICT CI shall provide the capability to define a global data dictionary context.	T216-5.06.08
S-DMS-20120	The DDICT CI shall maintain information describing the relationships between Earth Science Data Types.	T216-5.02.01
S-DMS-20130	The DDICT CI shall have the capability to accept from the Workbench CI data dictionary information requests consisting of any combination of the following: Earth Science Data Types, Core Metadata attribute, and Product Specific Metadata.	T216-5.02.01
S-DMS-20140	The DDICT CI shall have the capability to send to the Workbench CI:#a._Earth Science data type descriptions#b._core metadata attribute definitions, domains and synonyms#c._product specific metadata attribute definitions, domains and synonyms.	T216-1.03.06
S-DMS-20160	The DDICT CI shall have the capability to accept from the SDSRV CI Data Server, Export Files, for the purposes of defining new or updated data dictionary entries	T216-5.01.07
S-DMS-20170	The DDICT CI shall have the capability to accept from the LIM CI, Export Files, for the purposes of defining new or updated data dictionary entries	T216-5.01.08
S-DMS-20180	The DDICT CI shall have the capability to accept from the DIM CI, Export Files, for the purposes of defining new or updated data dictionary entries	T216-5.01.09
S-DMS-20190	The DDICT CI shall maintain consistency of semantic relationships between its data dictionary entries and data server Schema information from which they were derived.	T216-5.02.01

**Table B-1. Requirements Traceability Matrix (46 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DMS-20200	The DDICT CI shall support additions, deletions and modifications to DDICT CI Schema.	T216-5.03.01 T216-5.03.02 T216-5.03.03
S-DMS-20210	The DDICT CI shall use the identification of the user on whose behalf a Service Request is issued as the basis for access control decisions.	T216-1.03.05
S-DMS-20220	The DDICT CI data accesses shall be subject to access controls of read, write, update and delete, singly or in combination, based on user privileges.	T216-5.10.01
S-DMS-20240	The DDICT CI shall provide a capability to decompose the Search Requests it receives into executable data base Queries.	T216-5.10.03
S-DMS-20250	The DDICT CI shall store, maintain and provide data management services for ECS data dictionary entries.	T216-5.06.01 T216-5.06.05
S-DMS-20260	The DDICT CI shall support an administration utility for performance monitoring of system disk, memory, CPU and Input/Output.	T216-5.01.06
S-DMS-20270	The DDICT CI shall support an administration utility for performance monitoring of Service Requests processing.	T216-5.01.06
S-DMS-20280	The DDICT CI shall support an administration utility for performance tuning.	T216-5.01.06
S-DMS-20290	The DDICT CI shall support an administration utility for administration of access control.	T216-1.04.09
S-DMS-20300	The DDICT CI shall support an administration utility for on-line full backup of Data Dictionary service data.	T216-1.01.01
S-DMS-20310	The DDICT CI shall support an administration utility for on-line incremental backup of Data Dictionary service data.	T216-1.01.02
S-DMS-20320	The DDICT CI shall support an administration utility for manual recovery of Data Dictionary data from system and media failures.	T216-1.01.03
S-DMS-20330	The DDICT CI shall support an administration utility for automatic recovery of DDICT CI data from system failures.	T216-1.01.04
S-DMS-20340	The DDICT CI shall support a data administration utility for data import.	T216-1.01.05
S-DMS-20350	The DDICT CI shall support a data administration utility for data export.	T216-1.01.06
S-DMS-20530	The DDICT CI shall support batch information management capabilities to add data dictionary entries.	T216-5.05.01
S-DMS-20540	The DDICT CI shall support batch information management capabilities to update data dictionary entries.	T216-5.05.02
S-DMS-20550	The DDICT CI shall support batch information management capabilities to delete data dictionary entries.	T216-5.05.03
S-DMS-20560	The DDICT CI shall support batch information management capabilities to retrieve data dictionary entries.	T216-5.05.04
S-DMS-20570	The DDICT CI shall support interactive information management capabilities to add data dictionary entries.	T216-5.05.05

**Table B-1. Requirements Traceability Matrix (47 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DMS-20580	The DDICT CI shall support interactive information management capabilities to update data dictionary entries.	T216-5.05.06
S-DMS-20590	The DDICT CI shall support interactive information management capabilities to delete data dictionary entries.	T216-5.05.07
S-DMS-20600	The DDICT CI shall support interactive information management capabilities to retrieve data dictionary entries.	T216-5.05.08
S-DMS-20610	The DDICT CI shall maintain a log of all insertions, updates and deletions of data dictionary entries	T216-5.06.09
S-DMS-20620	Standard Product related Metadata at the DDICT CI shall include keywords and glossary from investigators.	T216-5.02.01
S-DMS-20630	Standard Product related Metadata at the DDICT CI shall include of keywords, synonyms, and glossary for cross-product and cross-directory referencing.	T216-5.02.01
S-DMS-20640	The DDICT CI shall support the restart of database administration and maintenance activities which are unintentionally interrupted through system software or hardware failure, without loss of information.	T216-5.01.02
S-DMS-20660	The DDICT CI shall collect the management data used to support security management.	T216-5.07.01
S-DMS-20670	The DDICT CI shall establish access controls of read, write, update and delete, singly or in combination, based on data types.	T216-5.10.02
S-DMS-20680	The DDICT CI shall establish access controls of read, write, update and delete, singly or in combination, based on data ownership.	T216-5.03.04
S-DMS-20690	The DDICT CI shall provide the capability to add, delete, or modify dictionary entries to authorized users.	T216-5.09.01
S-DMS-20700	The DDICT CI shall provide integration, testing, and simulation status to the SMC.	T216-5.08.01
S-DMS-20710	The DDICT CI shall provide maintenance status to the SMC.	T216-5.08.02
S-DMS-20720	The DDICT CI shall provide logistics status to the SMC.	T216-5.08.03
S-DMS-20730	The DDICT CI shall provide training information to the SMC.	T216-5.08.04
S-DMS-20735	The DDICT CI shall provide the capability to receive maintenance directives from the SMC.	T216-5.09.01
S-DMS-20740	The DDICT CI shall provide the capability to receive directives for integration, testing, and simulation from the SMC.	T216-5.09.02
S-DMS-20750	The DDICT CI shall provide the capability to receive configuration management directives from the SMC.	T216-5.09.03
S-DMS-20760	The DDICT CI shall provide the capability to receive logistics management directives from the SMC.	T216-5.09.04
S-DMS-20770	The DDICT CI shall provide the capability to receive fault management directives from the SMC.	T216-5.09.05
S-DMS-20780	The DDICT CI shall provide the capability to receive security directives from the SMC.	T216-5.09.06
S-DMS-20790	The DDICT CI shall provide the capability to receive training management directives from the SMC.	T216-5.09.07

**Table B-1. Requirements Traceability Matrix (48 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DMS-20820	The DDICT CI shall collect Fault Management Data and provide it to the MSS.	T216-5.07.01
S-DMS-20830	The DDICT CI shall collect Configuration Management Data and provide it to the MSS.	T216-5.07.02
S-DMS-20840	The DDICT CI shall collect Accountability Management Data and provide it to the MSS.	T216-5.07.03
S-DMS-20850	The DDICT CI shall collect Performance Management Data and provide it to the MSS.	T216-5.07.04
S-DMS-20860	The DDICT CI shall collect Scheduling Management Data and provide it to the MSS.	T216-5.07.05
S-DMS-20880	The DDICT CI shall have the capability to receive from the Data Administrator, Data Administration Requests	T216-5.10.04
S-DMS-20890	The DDICT CI shall provide maintain Valid Values for data elements, where the data element has an enumerated set of values as a constraint.	T216-5.04.04
S-DMS-20930	The DDICT CI shall have the capability to export Dependent Valid Values to the ESDIS IMS.	T216-5.01.10
S-DMS-21000	The DDICT CI shall provide an application program interface for the submission of Service Requests.	T216-1.03.05
S-DMS-21010	The DDICT CI shall provide an application program interface for the submission of requests for administrative services.	T216-1.03.06
S-DMS-21020	The DDICT CI shall contain a thesarus of data dictionary entries.	T216-5.01.05
S-DMS-30060	The GTWAY CI shall provide the capability to establish sessions as the context for a series of service requests.	T216-1.05.01
S-DMS-30070	The GTWAY CI shall provide the capability to suspend an on-going session.	T216-1.05.02
S-DMS-30080	The GTWAY CI shall provide the capability to resume a previously suspended session.	T216-1.05.03
S-DMS-30090	The GTWAY CI shall provide the capability to terminate an established session.	T216-1.05.04
S-DMS-30110	The GTWAY CI shall provide the capability to save the result of a Service Request for later reuse.	T216-1.04.01
S-DMS-30120	The GTWAY CI shall, upon request, provide the current Result Set (complete or incomplete) to the client or specified destination.	T216-1.04.09
S-DMS-30130	The GTWAY CI shall provide the capability to terminate processing of active or suspended service requests.	T216-1.04.02
S-DMS-30140	The GTWAY CI shall provide the capability to suspend processing of active service requests.	T216-1.04.03
S-DMS-30150	The GTWAY CI shall provide the capability to resume processing of a previously suspended service request.	T216-1.04.04
S-DMS-30160	The GTWAY CI shall provide a capability to estimate the resources required to execute a pending Service request.	T216-1.04.05
S-DMS-30260	The GTWAY CI shall provide a capability to report the status of service requests submitted to it.	T216-1.04.06

**Table B-1. Requirements Traceability Matrix (49 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DMS-30310	The GTWAY CI shall have the capability to send Inventory Search Requests to the Version 0 IMS using Version 0 system protocols.	T216-6.03.01
S-DMS-30320	The GTWAY CI shall have the capability to receive Inventory Search Results from the Version 0 IMS using Version 0 system protocols.	T216-6.03.04
S-DMS-30340	The GTWAY CI shall have the capability to send Browse Requests to the Version 0 IMS using Version 0 system protocols.	T216-6.03.02
S-DMS-30350	The GTWAY CI shall have the capability to send Product Requests to the Version 0 IMS using Version 0 system protocols.	T216-6.03.03
S-DMS-30560	The GTWAY shall support two-way Level 2 or 3 catalog interoperability, as defined by the CEOS, for the interface between the ECS and the NOAA SAAs.	T216-6.04.01
S-DMS-30570	The GTWAY shall support two-way Level 3 catalog interoperability, as defined by the CEOS, for the interface between the ECS and V0.	T216-6.03.01
S-DMS-30600	The GTWAY CI shall have the capability to send User Authentication Requests to the NOAA SAAs using Version 0 system protocols.	T216-6.04.01
S-DMS-30610	The GTWAY CI shall have the capability to receive User Authentication Information from the NOAA SAAs using Version 0 system protocols.	T216-6.04.08
S-DMS-30620	The GTWAY CI shall have the capability to receive User Authentication Requests from the NOAA SAAs using Version 0 system protocols.	T216-6.04.08
S-DMS-30630	The GTWAY CI shall have the capability to send User Authentication Information to the NOAA SAAs using Version 0 system protocols.	T216-6.04.01
S-DMS-30640	The GTWAY CI shall have the capability to receive Inventory Search Requests from the NOAA SAAs using Version 0 system protocols.	T216-6.04.09
S-DMS-30650	The GTWAY CI shall have the capability to send Inventory Search Results to the NOAA SAAs using Version 0 system protocols.	T216-6.04.10
S-DMS-30660	The GTWAY CI shall have the capability to send Inventory Search Requests to the NOAA SAAs using Version 0 system protocols.	T216-6.04.10
S-DMS-30670	The GTWAY CI shall have the capability to receive Inventory Search Results from the NOAA SAAs using Version 0 system protocols.	T216-6.04.09
S-DMS-30680	The GTWAY CI shall have the capability to receive Browse Requests from the NOAA SAAs using Version 0 system protocols.	T216-6.04.02
S-DMS-30690	The GTWAY CI shall have the capability to send Browse Requests to the NOAA SAAs using Version 0 system protocols.	T216-6.04.03
S-DMS-30700	The GTWAY CI shall have the capability to send Product Requests to the NOAA SAAs using Version 0 system protocols.	T216-6.04.04
S-DMS-30710	The GTWAY CI shall have the capability to receive Product Delivery Status from the NOAA SAAs using Version 0 system protocols.	T216-6.04.05
S-DMS-30720	The GTWAY CI shall have the capability to send Product Delivery Status Requests to the NOAA SAAs using Version 0 system protocols.	T216-6.04.06

**Table B-1. Requirements Traceability Matrix (50 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DMS-30730	The GTWAY CI shall have the capability to receive Product Requests from the NOAA SAAs using Version 0 system protocols.	T216-6.04.07
S-DMS-30740	The GTWAY CI shall have the capability to send Product Delivery Status to the NOAA SAAs using Version 0 system protocols.	T216-6.04.06
S-DMS-30750	The GTWAY CI shall have the capability to receive Product Delivery Status Requests from the NOAA SAAs using Version 0 system protocols.	T216-6.04.05
S-DMS-30760	Partial Results shall consist of Search Results accumulated to the time of the request for partial results, or Search Results accumulated since the last request for partial results	T216-1.04.09
S-DMS-30800	The GTWAY CI shall be able to provide notification of events associated with sessions which require additional instructions, e.g., when requests exceed a specified threshold.	T216-1.05.13
S-DMS-30805	The GTWAY CI shall be able to provide notification of events associated with Service requests which require additional instructions, e.g., when resources for a request exceed a specified threshold.	T216-1.06.06
S-DMS-30810	The GTWAY CI shall provide an entry point to be used to respond to notifications of events which require instructions to be returned to the LIM CI.	T216-1.03.10
S-DMS-30820	The GTWAY CI shall provide the capability to accept and utilize the entry point to be used for asynchronous notification in asynchronous Service Requests.	T216-1.03.10
S-DMS-30830	The GTWAY CI shall provide the capability to disable asynchronous notifications, and provide default instructions for such notification events.	T216-1.03.10
S-DMS-30840	The GTWAY CI shall be able to accept notifications of events associated with sessions it has with other services.	T216-1.05.13
S-DMS-30845	The GTWAY CI shall be able to accept notifications of events associated with Service requests it issued to other services.	T216-1.06.05
S-DMS-30850	The GTWAY CI shall provide a capability to accept instructions associated with responses to notifications of events.	T216-1.03.10
S-DMS-30860	The GTWAY CI shall provide a capability to report the status of sessions established by it.	T216-1.05.05
S-DMS-30870	The GTWAY CI shall automatically suspend sessions that have been inactive for a specified time.	T216-1.05.06
S-DMS-30890	The GTWAY CI shall support multiple concurrent sessions.	T216-1.05.07
S-DMS-30900	The GTWAY CI shall support multiple service requests within a session.	T216-1.05.08
S-DMS-30910	The GTWAY CI shall log the initiation of a session.	T216-1.04.08
S-DMS-30920	The GTWAY CI shall log the termination of a session.	T216-1.04.08
S-DMS-30930	The GTWAY CI shall log the suspension of a session.	T216-1.04.08
S-DMS-30940	The GTWAY CI shall log the resumption of previously suspended	T216-1.04.08

**Table B-1. Requirements Traceability Matrix (51 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DMS-30950	The GTWAY CI shall provide the capability for the operations staff to specify a "time-out" period for inactive sessions.	T216-1.05.09
S-DMS-30960	The GTWAY CI shall provide the capability for the operations staff to suspend all active sessions.	T216-1.05.10
S-DMS-30970	The GTWAY CI shall provide the capability for the operations staff to resume any or all sessions, previously suspended by operations staff or clients.	T216-1.05.11
S-DMS-30980	The GTWAY CI shall provide the capability for the operations staff to terminate any or all active or suspended sessions.	T216-1.05.12
S-DMS-30990	The GTWAY CI shall send Notifications to users via email in the event that a users's request or session is canceled by operations staff.	T216-1.05.13
S-DMS-31000	The GTWAY CI shall provide the capability to restore a session after interruption.	T216-1.05.14
S-DMS-31020	The GTWAY CI shall log the suspension of processing of Service requests.	T216-1.04.08
S-DMS-31030	The GTWAY CI shall log the resumption of previously suspended Service requests.	T216-1.04.08
S-DPS-20020	The PRONG CI shall have the capability to incorporate DAAC-developed software required to support discipline specific needs.	T224-2.01.02
S-DPS-20191	The PRONG CI shall have the capability to modify the configuration settings of the Data Processing subsystem Hardware resources.	T224-2.01.03
S-DPS-21730	The operations staff shall have the capability to suspend the processing of a Data Processing Request.	T224-2.03.01
S-DPS-21740	The operations staff shall have the capability to resume suspended processing of a Data Processing Request.	T224-2.03.02
S-DPS-21855	The PRONG CI GUI shall conform to the guidelines in version 5.1 of the ECS User Interface Style Guide.	T224-2.02.01
S-DPS-21856	To the extent possible, the PRONG CI COTS GUI shall be configured to conform to the guidelines in version 5.1 of the ECS User Interface Style Guide.	T224-2.02.01
S-DPS-21860	The PRONG CI HMI Functions shall be accessible via an API (Application Program Interface).	T224-2.02.03
S-DPS-22560	The PRONG CI shall update the Processing State to suspend when the Operation Command specifies suspension.	T224-2.03.01
S-DPS-22590	The PRONG CI shall not perform any further processing on a Data Processing Request which is suspended.	T224-2.03.01
S-DPS-22600	The PRONG CI shall reject the Operation Command which specified a resume if the Data Processing Request was not suspended.	T224-2.03.03
S-DPS-22611	When the resume Operation Command is used to resume processing for a Data Processing Request, the PRONG CI shall update the Processing State to the previous Processing State before the suspension.	T224-2.03.02

**Table B-1. Requirements Traceability Matrix (52 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DPS-30300	The PRONG CI shall process the EOS-AM spacecraft ancillary data to assess the quality of onboard orbit data to detect and note in metadata the following conditions:#a. missing data#b. erroneous data (i.e. if distance from origin deviates greatly from a neighboring set of points or if #magnitude of velocity deviates greatly from the neighboring set of velocities) excluding data that reflects orT224-1.01.03	T224-1.01.03
S-DPS-30320	The PRONG CI shall report on the quality of onboard orbit data, noting:#a) the number of missing data are more than a specified limit value over a specified time interval#b) the number of contiguous missing data are more than a specified value	T224-1.01.03
S-DPS-30600	The PRONG CI shall process the EOS-AM spacecraft ancillary data to assess the quality of onboard attitude data contained in the EOS-AM spacecraft ancillary data to detect and note in metadata the following conditions:#a) missing data#b) erroneous data (i.e. invalid Euler angle, invalid Euler angle rate).	T224-1.01.06
S-DPS-30710	The PRONG CI shall provide to the SDP Toolkit, at a minimum, the following metadata with the ephemeris data files for EOS-AM processing:#a) time range#b) orbit number range#c) platform	T224-1.02.01
S-DPS-30750	The PRONG CI shall provide to the SDP Toolkit orbit and attitude data including platform position and velocity vectors and platform attitude/attitude rate data, in the native format of the host hardware for EOS-AM processing.	T224-1.02.02
S-DPS-30770	The PRONG CI shall provide to the SDP Toolkit orbit and attitude data, including platform position and velocity vectors and platform attitude/attitude rate data, in HDF-EOS format for EOS-AM processing.	T224-1.02.03
S-DPS-30900	The PRONG CI shall provide to the SDP Toolkit EDOS-generated L0 PDS as header and quality parameters all contained in the same physical file as the L0 telemetry packets.	T224-1.02.04
S-DPS-30910	The PRONG CI shall provide to the SDP Toolkit EDOS-generated L0 PDS containing header information as specified in the EDOS-ECS ICD.	T224-1.02.05
S-DPS-30920	The PRONG CI shall provide to the SDP Toolkit EDOS-generated L0 PDS containing quality information as specified in the EDOS-ECS ICD.	T224-1.02.08
S-DPS-31010	The PRONG CI shall provide to the SDP Toolkit EDOS-generated L0 header in the native format of the host hardware.	T224-1.02.06
S-DPS-31030	The PRONG CI shall provide, at a minimum, the following metadata information to the SDP Toolkit with EDOS-generated L0 data:#a. Actual start time of staged L0 data#b. Actual end time of staged L0 data#c. Number of physical L0 data files staged#d. Start time of L0 data as requested by EOS investigators through the planning/processing #system#e. End time of L0 data as requested by EOS investigaT224-1.02.07	T224-1.02.07

**Table B-1. Requirements Traceability Matrix (53 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DPS-40835	The AITTL CI shall conform to the guidelines in version 5.1 of the ECS User Interface Style Guide.	T224-2.02.02
S-DPS-41100	The AITTL CI shall provide to the operations staff, via a GUI, the capability to display a list of Science Software Archive Packages in the Data Server.	B225.05.01
S-DPS-41110	The AITTL CI shall provide to the operations staff, via a GUI, the capability to display the metadata for a specific Science Software Archive Package.	B225.05.10
S-DPS-41120	The AITTL CI shall provide to the operations staff, via a GUI, the capability to display a list of the files that comprise a specific Science Software Archive Package.	B225.05.07
S-DPS-41130	The AITTL CI shall provide to the operations staff, via a GUI, the capability to retrieve a copy of a specified file belonging to a specific Science Software Archive Package.	B225.05.09
S-DPS-41140	The AITTL CI shall provide to the operations staff, via a GUI, the capability to add a new Science Software Archive Package to the Data Server.	B225.05.02
S-DPS-41150	The AITTL CI shall provide to the operations staff, via a GUI, the capability to add or remove a file to or from the set of files comprising a specific Science Software Archive Package.	B225.05.08
S-DPS-41160	The AITTL CI shall provide to the operations staff, via a GUI, the capability to edit the metadata for a specific Science Software Archive Package.	B225.05.11
S-DPS-41170	The AITTL CI shall provide to the operations staff, via a GUI, the capability to remove a specific Science Software Archive Package from the Data Server.	B225.05.05
S-DPS-41180	The AITTL CI shall provide to the operations staff, via a GUI, the capability to define new data types for new Products produced by an Science Software Archive Package.	B225.05.04
S-DPS-41190	The AITTL CI SSAP GUI for adding an Science Software Archive Package to the Data Server shall have the capability of accepting its inputs from a file.	B225.05.02
S-DPS-41200	The AITTL CI SSAP GUI for adding an Science Software Archive Package to the Data Server shall provide the operations staff with the ability (a) to restrict update access to the Data Server to authorized personnel and (b) to maintain a record of updates made.	B225.05.03 B225.05.06
S-DPS-41355	The AITTL CI SSAP GUI for updating the PGE Database shall provide the operations staff with the ability (a) to restrict update access to the PGE Database to authorized personnel and (b) to maintain a record of updates made.	B225.04.01 B225.04.02
S-DPS-41360	The AITTL CI SSAP GUI for updating the PGE Database shall have the capability of accepting its inputs from a file.	B225.04.02
S-DPS-42365	The operations staff shall have the capability to use MSS profiling capabilities to determine the computing resources utilized by the execution of a chain of PGEs.	T224-2.01.04

**Table B-1. Requirements Traceability Matrix (54 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DSS-00070	The SDSRV CI shall accept Service Requests from the Data Processing subsystem and, as a result, provide access to Data for the purpose of reprocessing.	T209-3.07.03
S-DSS-00115	The SDSRV CI shall accept Search Status Requests for a specified active Search Request and, if requested, provide all Search Results accumulated for that Search Request.	T209-3.06.02
S-DSS-00116	The SDSRV CI shall accept Search Status Requests for a specified active Search Request and, if requested, provide all Search Results accumulated since the last Search Status Request for that Search Request.	T209-3.06.01
S-DSS-00180	The SDSRV CI shall accept and process Data Requests for Data Products that are produced on demand using the resources available to the Data Server.	T209-3.08.05
S-DSS-00200	The SDSRV CI shall provide the capability for a user to delete their own queued Data Request.	T209-3.08.03
S-DSS-00210	The SDSRV CI shall provide operations staff the capability to update the Priority Information for a queued Service Request.	T209-3.05.01
S-DSS-00215	The SDSRV CI shall provide operations staff the capability to modify any field in a queued Service request.	T209-3.05.02
S-DSS-00230	The SDSRV CI shall provide users the capability to cancel their own Service Requests.	T209-3.05.03
S-DSS-00240	The SDSRV CI shall determine which Data Requests require post-retrieval processing.	T209-3.08.04
S-DSS-00250	The SDSRV CI shall provide an application program interface for the submission of Service Requests.	T209-3.05.04
S-DSS-00260	The SDSRV CI shall provide an application program interface for the submission of requests for administrative services.	T209-3.05.05
S-DSS-00264	The SDSRV CI shall provide an application program interface which permits DAAC operations staff to link special subsetting capabilities into a Science Data Server.	T209-3.05.06
S-DSS-00270	The SDSRV CI shall accept and process Data Requests for Repaired Orbit Data.	T209-3.08.01
S-DSS-00280	The SDSRV CI shall accept and process Data Requests for Attitude Data.	T209-3.08.01
S-DSS-00290	The SDSRV CI shall accept Suspend Requests to suspend processing a client session.	T209-2.02.04
S-DSS-00300	The SDSRV CI shall accept Resume Requests to resume processing of a client session.	T209-2.02.05
S-DSS-00310	The SDSRV CI shall provide the capability for authorized clients to submit Service Requests batch mode.	T209-3.05.07
S-DSS-00320	The SDSRV CI shall notify clients that issue Cancellation Requests that the associated Service Request has been canceled or the associated Service Request was completed.	T209-3.05.08
S-DSS-00330	The SDSRV CI shall record Request Identifiers to be used for accounting purposes.	T209-3.03.06

**Table B-1. Requirements Traceability Matrix (55 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DSS-00331	The SDSRV CI shall record the User Identifier of the science investigator associated with a Service Request, to be used for accounting purposes.	T209-3.03.06
S-DSS-00332	The SDSRV CI shall record the amount of user storage associated with a science user, to be used for accounting purposes.	T209-3.03.06
S-DSS-00333	The SDSRV CI shall record the amount of connect time associated with a science user, to be used for accounting purposes.	T209-3.03.06
S-DSS-00340	The SDSRV CI shall record the level of CPU utilization for each Service Request to be used for accounting.	T209-3.03.06
S-DSS-00350	The SDSRV CI shall record the level of I/O utilization for each Service Request to be used for accounting.	T209-3.03.06
S-DSS-00360	The SDSRV CI shall record, for accounting purposes, a fixed personnel cost for Service Requests requiring interaction with operations staff.	T209-3.03.12
S-DSS-00370	The SDSRV CI shall record a archival storage cost based on the number of bytes stored, to be used for accounting.	T209-3.03.12
S-DSS-00375	The SDSRV CI shall associate User Accounting Information with client sessions.	T209-3.03.03
S-DSS-00376	The SDSRV CI shall provide User Accounting Information to the SMC.	T209-3.03.08
S-DSS-00377	The SDSRV CI shall support operations staff in the creation of utilization reports, and operations staff shall distribute them on a periodic basis to a predefined list of report recipients.	T209-3.03.09
S-DSS-00378	Operations staff shall be able to distribute SDSRV utilization reports eletronically or in hard copy or on eletronic media.	T209-3.03.09
S-DSS-00400	The SDSRV CI shall accept pricing information, based on disk, CPU and media utilization, from CSMS.	T209-3.03.04
S-DSS-00410	The SDSRV CI shall provide actual cost information by the completion of a Service Request.	T209-3.03.07
S-DSS-00420	The SDSRV CI shall record the amount of media utilized for a Distribution Request.	T209-3.03.11
S-DSS-00430	The SDSRV CI shall accept the amount of media utilized from the distribution services.	T209-3.03.05
S-DSS-00440	The SDSRV CI shall be capable of providing estimated Service Request Cost.	T209-3.03.06
S-DSS-00730	The SDSRV CI shall provide the capability to store Metadata problem reports.	T209-3.07.02
S-DSS-00732	The SDSRV CI shall provide the capability for one Data Server to accept Data Availability Schedules from another Data Server.	T209-3.02.08
S-DSS-00740	The SDSRV CI shall notify operations staff of the receipt of Metadata problem reports.	T209-3.07.02
S-DSS-00750	The SDSRV CI shall provide Metadata problem reports to operations staff upon request.	T209-3.07.02

**Table B-1. Requirements Traceability Matrix (56 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DSS-00760	The SDSRV CI shall provide application program interfaces to all the operator functions.	T209-3.05.04
S-DSS-00770	The SDSRV CI shall utilize vendor supplied tools to analyze system CPU performance.	B209.02.01
S-DSS-00780	The SDSRV CI shall utilize vendor supplied tools to monitor the performance of query processing.	B209.02.02
S-DSS-00790	The SDSRV CI shall utilize vendor supplied tools to analyze system storage performance.	B209.02.03
S-DSS-00800	The SDSRV CI shall utilize vendor supplied tools to tune system throughput performance.	B209.02.04
S-DSS-00810	The SDSRV CI shall utilize vendor supplied tools to analyze system throughput performance.	B209.02.04
S-DSS-00830	The SDSRV CI shall collect Fault Management Data, such as, device failures, Service Request failures, transmission failures and general failures. This information shall be sent to the SMC for fault isolation.	T209-2.04.11
S-DSS-00840	The SDSRV CI shall inform the collocated elements of ECS if resource availability falls below nominal operating parameters. This applies to staging resources and peripheral resources.	T209-2.04.08
S-DSS-00920	The SDSRV CI shall provide Logistics Status to the SMC.	T209-2.04.07
S-DSS-00930	The SDSRV CI shall provide training information to the SMC.	T209-2.04.07
S-DSS-00980	The SDSRV CI operations staff shall have the capability to receive from the SMC, maintenance directives.	T209-2.04.07
S-DSS-00990	The SDSRV CI operations staff shall have the capability to receive from the SMC, directives for integration, testing, and simulation.	T209-2.04.07
S-DSS-01000	The SDSRV CI operations staff shall have the capability to receive from the SMC, configuration management directives.	T209-2.04.07
S-DSS-01010	The SDSRV CI operations staff shall have the capability to receive from the SMC, logistics management directives.	T209-2.04.07
S-DSS-01020	The SDSRV CI operations staff shall have the capability to receive from the SMC fault management directives.	T209-2.04.07
S-DSS-01030	The SDSRV CI operations staff shall have the capability to receive from the SMC security directives.	T209-2.04.07
S-DSS-01035	The SDSRV CI operations staff shall have the capability to receive from the SMC scheduling directives, and scheduling adjudication directives.	T209-2.04.07
S-DSS-01040	The SDSRV CI operations staff shall provide integration, testing, and simulation status to the SMC.	T209-2.04.07
S-DSS-01050	The SDSRV CI operations staff shall have the capability to receive training management directives from the SMC.	T209-2.04.07
S-DSS-01080	The SDSRV CI shall notify operations staff in the event that data required for an on-demand data production is not accessible.	T209-3.08.05
S-DSS-01170	The SDSRV CI shall provide the capability to monitor resource utilization on a client basis.	B209.02.04

**Table B-1. Requirements Traceability Matrix (57 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DSS-01200	The SDSRV CI shall notify the requester in the event that an on-demand data production cannot be completed.	T209-3.08.05
S-DSS-01220	The SDSRV CI shall provide the capability for a client to suspend processing of a client session.	T209-2.02.04
S-DSS-01290	The SDSRV CI shall provide the capability for the operations staff to suspend all active client sessions.	T209-2.02.01
S-DSS-01300	The SDSRV CI shall provide the capability for the operations staff to resume any or all client sessions, previously suspended by operations staff or clients.	T209-2.02.02
S-DSS-01310	The SDSRV CI shall provide the capability for the client to resume a client session, previously suspended by the client.	T209-2.02.07
S-DSS-01320	The SDSRV CI shall provide the capability for the operations staff to terminate any or all active or suspended client sessions.	T209-2.02.03
S-DSS-01330	The SDSRV CI shall provide the capability for the client to terminate any or all active or suspended client sessions that were previously initiated by the client.	T209-2.02.06
S-DSS-01360	The SDSRV CI shall, in the event of a restart after a processing failure, recover the state of all Service Requests, including the rollback of all incomplete Data Base Transactions, and the recovery of all complete Data Base Transactions.	T209-2.04.09
S-DSS-01410	The SDSRV CI shall log the suspension of the processing of a Service Request or the suspension of a client session.	T209-2.02.01
S-DSS-01420	The SDSRV CI shall log the resumption of a previously suspended Service Request or client session.	T209-2.02.02
S-DSS-01440	The SDSRV CI shall provide client Session Status Information to the requester.	T209-2.02.07
S-DSS-01450	The SDSRV CI shall provide application programming interfaces capable of supporting the development of extensions for the addition of Metadata fields that are unique to the data maintained at a specific DAAC.	T209-3.05.09
S-DSS-01474	The SDSRV CI shall validate Subscription Requests for time interval events. Time intervals will be limited to daily, weekly, or monthly.	T209-3.04.01
S-DSS-01520	The SDSRV CI shall provide the capability to notify a user that a new version of the data has been archived.	T209-3.04.02
S-DSS-01540	The SDSRV CI shall provide the capability to bundle notification of discrete events into a single notice to the subscriber.	T209-3.04.01
S-DSS-01560	The SDSRV CI shall accept Subscription Update Requests to update stored Subscriptions by changing the event or the action.	T209-3.04.03
S-DSS-01580	The SDSRV CI shall provide the capability for operations staff to update the stored Subscriptions by changing the event and/or action.	T209-3.04.04
S-DSS-01590	The SDSRV CI shall provide the capability for a user client to update their stored Subscriptions by changing the action and/or event.	T209-3.04.03

**Table B-1. Requirements Traceability Matrix (58 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DSS-01620	The SDSRV CI shall validate that Subscription Update Requests specify a valid Subscription Identifier and a valid replacement Subscription.	T209-3.04.03
S-DSS-01700	The SDSRV CI shall periodically report on new events for timer-based Subscriptions and will not repeat notification of old events.	T209-3.04.01
S-DSS-01790	The SDSRV CI shall provide access to compound data type services.	T209-3.08.02
S-DSS-03002	The SDSRV CI shall be capable of receiving L0 - L4 Data.	T209-3.09.01
S-DSS-03004	The SDSRV CI shall be capable of receiving Ancillary Data.	T209-3.09.01
S-DSS-03006	The SDSRV CI shall be capable of receiving Metadata associated with Ancillary Data.	T209-3.09.01
S-DSS-03050	The SDSRV CI shall be capable of receiving FDF Orbit Data for AM-1 instruments.	T209-3.09.01
S-DSS-03060	The SDSRV CI shall be capable of receiving FDF Attitude Data for AM-1 instruments.	T209-3.09.01
S-DSS-03100	The SDSRV CI shall be capable of receiving FDF Metadata for Orbit and Attitude data for AM-1 instruments.	T209-3.09.01
S-DSS-03122	The SDSRV CI shall be capable of receiving real EOS instrument data to support pre-launch checkout of the ground system.	T209-3.09.01
S-DSS-03124	The SDSRV CI shall be capable of receiving simulated EOS instrument data to support pre-launch checkout of the ground system.	T209-3.09.01
S-DSS-03190	The SDSRV CI shall be capable of receiving Orbit/Attitude data.	T209-3.09.01
S-DSS-03200	The SDSRV CI shall be capable of receiving Metadata associated with Orbit/Attitude data.	T209-3.09.01
S-DSS-03290	The SDSRV CI shall be capable of receiving Spacecraft Historical Data.	T209-3.09.01
S-DSS-03330	The SDSRV CI shall be capable of receiving TBD Special Data Products.	T209-3.09.01
S-DSS-03340	The SDSRV CI shall be capable of receiving Metadata associated with TBD Special Data Products.	T209-3.09.01
S-DSS-03361	The SDSRV CI shall be capable of receiving NMC data.	T209-3.09.05
S-DSS-03362	The SDSRV CI shall be capable of receiving First Look Products from the DAO.	T209-3.09.05
S-DSS-03363	The SDSRV CI shall be capable of receiving Reanalysis Products from the DAO.	T209-3.09.05
S-DSS-03364	The SDSRV CI shall be capable of receiving Final Analysis Products from the DAO.	T209-3.09.05
S-DSS-03400	The SDSRV CI shall verify compliance of scientist provided data with EOSDIS defined standards for file content and structure (not scientific content).	T209-3.09.02
S-DSS-03410	The SDSRV CI shall verify compliance of scientist provided Metadata with EOSDIS defined standards for Metadata content and structure (not scientific content).	T209-3.09.02

**Table B-1. Requirements Traceability Matrix (59 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DSS-03460	The SDSRV CI shall interface with the STMGT CI to provide storage for FDF Orbit Data for AM-1 instruments.	T209-3.09.03
S-DSS-03470	The SDSRV CI's MD Component shall provide storage for Metadata associated with FDF Orbit and Attitude Data for AM-1 instruments.	T209-3.09.03
S-DSS-03492	The SDSRV CI shall interface with the STMGT CI to provide storage for real EOS instrument data to support pre-launch checkout of the ground system.	T209-3.09.03
S-DSS-03494	The SDSRV CI shall interface with the STMGT CI to provide storage for simulated EOS instrument data to support pre-launch checkout of the ground system.	T209-3.09.03
S-DSS-03600	The SDSRV CI shall interface with the STMGT CI to provide storage for production plans.	T209-3.09.01
S-DSS-03660	The SDSRV CI shall interface with the STMGT CI to provide storage for spacecraft historical data.	T209-3.09.03
S-DSS-03700	The SDSRV CI shall interface with the STMGT CI to provide storage for TBD special Data Products.	T209-3.09.01
S-DSS-03710	The SDSRV CI's MD Component shall provide storage for Metadata associated with TBD special Data Products.	T209-3.09.03
S-DSS-03741	The SDSRV CI shall interface with the STMGT CI to provide storage for NMC data.	T209-3.09.05
S-DSS-03742	The SDSRV CI shall interface with the STMGT CI to provide storage for First Look Products.	T209-3.09.05
S-DSS-03743	The SDSRV CI shall interface with the STMGT CI to provide storage for Reanalysis Products.	T209-3.09.05
S-DSS-03744	The SDSRV CI shall interface with the STMGT CI to provide storage for Final Analysis Products.	T209-3.09.05
S-DSS-03940	The SDSRV CI shall be capable of receiving estimated disk utilization from the PLANG CI.	T209-3.07.01
S-DSS-03950	The SDSRV CI shall be capable of receiving estimated CPU utilization from the PLANG CI.	T209-3.07.01
S-DSS-03960	The SDSRV CI shall be capable of receiving estimated disk utilization from the STMGT CI.	T209-3.03.10
S-DSS-03990	The SDSRV CI shall be capable of receiving actual disk utilization from the PLANG CI.	T209-3.07.01
S-DSS-04000	The SDSRV CI shall be capable of receiving actual CPU utilization from the PLANG CI.	T209-3.07.01
S-DSS-04010	The SDSRV CI shall be capable of receiving actual disk utilization from the STMGT CI.	T209-3.03.10
S-DSS-04038	The SDSRV CI shall supply L0 - L4 Data to the DDIST CI.	T209-3.02.01
S-DSS-04080	The SDSRV CI shall supply FDF orbit data for AM-1 instruments packages to the DDIST CI.	T209-3.02.01
S-DSS-04112	The SDSRV CI shall be capable of supplying real EOS instrument data to support pre-launch checkout of the ground system to the DDIST CI.	T209-3.02.01

**Table B-1. Requirements Traceability Matrix (60 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DSS-04114	The SDSRV CI shall be capable of supplying simulated EOS instrument data to support pre-launch checkout of the ground system to the DDIST CI.	T209-3.02.01
S-DSS-04180	The SDSRV CI shall supply Orbit/Attitude Data to the DDIST CI.	T209-3.02.01
S-DSS-04190	The SDSRV CI's MD Component shall supply Metadata associated with Orbit/Attitude Data to the DDIST CI.	T209-3.02.01
S-DSS-04320	The SDSRV CI shall supply TBD special Data Products to the DDIST CI.	T209-3.02.01
S-DSS-04330	The SDSRV CI's MD Component shall supply Metadata associated with TBD special Data Products to the DDIST CI.	T209-3.02.01
S-DSS-04332	The SDSRV CI shall supply Research results (articles, algorithms, data sets, software) to the DDIST CI.	T209-3.02.01
S-DSS-04340	The SDSRV CI shall supply V0 migration Data Products to the DDIST CI.	T209-3.02.01
S-DSS-04350	The SDSRV CI shall supply Metadata associated with V0 migration Data Products to the DDIST CI.	T209-3.02.01
S-DSS-04351	The SDSRV CI shall supply NMC data to the DDIST CI.	T209-3.02.01
S-DSS-04352	The SDSRV CI shall supply First Look Products to the DDIST CI.	T209-3.02.01
S-DSS-04353	The SDSRV CI shall supply Reanalysis Products to the DDIST CI.	T209-3.02.01
S-DSS-04354	The SDSRV CI shall supply Final Analysis Products to the DDIST CI.	T209-3.02.01
S-DSS-04410	The SDSRV CI's MD Component shall have the ability to store references to Orbit/Attitude Data as Metadata for science data.	T209-3.09.03
S-DSS-04500	The SDSRV CI's MD Component shall have the ability to indicate the need for on-demand product generation as Metadata for science data.	T209-3.08.05
S-DSS-04620	The SDSRV CI shall update the Metadata for a data item that has been purged from the system.	T209-2.01.02
S-DSS-04630	The SDSRV CI shall update the Metadata whenever a data item is relocated to another site.	T209-3.05.10
S-DSS-04720	The SDSRV CI shall provide DARs to ASTER ICC.	T209-3.10.01
S-DSS-04730	The SDSRV CI shall accept DARs from the client.	T209-3.10.02
S-DSS-04740	The SDSRV CI shall provide DAR status to the client, in response to DAR Status Requests.	T209-3.10.02
S-DSS-04745	The SDSRV CI shall provide operations staff with the ability to display and list outstanding DARs that are accessible by the Data Server.	T209-3.10.03
S-DSS-04750	The SDSRV CI shall accept DAR Status from IPs	T209-3.10.01
S-DSS-04760	The SDSRV CI shall accept Subscription Requests from the client linked to a specified, existing DAR.	T209-3.10.02
S-DSS-04770	The SDSRV CI shall send DAR Status Requests to ASTER ICC.	T209-3.10.01
S-DSS-04780	The SDSRV CI shall receive DAR Status from the ASTER ICC.	T209-3.10.01

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<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DSS-10202	The DDSRV CI shall provide the capability to ingest documentation in Microsoft WORD format.	T209-1.01.01
S-DSS-10206	The DDSRV CI shall provide the capability to ingest documentation in Interleaf format.	T209-1.01.02
S-DSS-10208	The DDSRV CI shall provide the capability to ingest documentation in WordPerfect format.	T209-1.01.03
S-DSS-10231	The DDSRV CI shall utilize vendor supplied tools to analyze system CPU performance.	B209.01.01
S-DSS-10232	The DDSRV CI shall utilize vendor supplied tools to analyze system throughput performance.	B209.01.02
S-DSS-10233	The DDSRV CI shall collect Fault Management Data, such as, device failures, Service Request failures, transmission failures and general failures. This information shall be sent to the SDSRV CI for forwarding to the SMC for fault isolation.	T209-2.04.06
S-DSS-10260	The DDSRV CI shall provide application programming interfaces that support development of extensions for addition of documents for use as Guide data for DAAC-specific Data Products.	T209-1.01.04
S-DSS-10300	The Document Data Server shall complete a search for a guide document by a single keyword in not exceeding 8 seconds.	T209-1.02.01
S-DSS-10305	The Document Data Server shall complete a directory search using a single keyword in a period not to exceed 8 seconds.	T209-1.02.02
S-DSS-10306	The Document Data Server shall complete a directory search using multiple keywords in a period not to exceed 13 seconds.	T209-1.02.03
S-DSS-10310	The Document Data Server shall complete a keyword search on a 1000 page document of not exceeding 3 seconds.	T209-1.02.04
S-DSS-20210	For any EOS Level 0 or L1A (if L0 is not available) data item that can not be located or is inaccessible and can not be re-created, the STMGT CI shall notify the operator which data item is missing and the operator shall request the data item be re-ingested from EDOS.	T209-3.01.03
S-DSS-20260	For each piece of archive media, the STMGT CI shall provide the capability to display the length of time to store data on the media before deletion.	T209-2.01.03
S-DSS-20270	The STMGT CI shall provide the capability to change the length of time to store data on archive media before deletion of the data.	T209-2.01.03
S-DSS-20280	The STMGT CI shall provide the capability to directly notify active users when Data Products will be deleted.	T209-2.01.03
S-DSS-20290	The STMGT CI shall provide the capability to indirectly notify users when Data Products will be deleted via a bulletin board type mechanism.	T209-2.01.03
S-DSS-20450	The STMGT CI shall provide the capability to archive real EOS instrument data to support pre-launch checkout of the ground system.	T209-3.09.03
S-DSS-20455	The STMGT CI shall provide the capability to retrieve real EOS instrument data to support pre-launch check out of ground systems.	T209-3.01.01

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<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DSS-20460	The STMGT CI shall provide the capability to archive simulated EOS instrument data to support pre-launch checkout of the ground system.	T209-3.09.03
S-DSS-20462	The STMGT CI shall provide the capability to retrieve simulated EOS instrument data to support pre-launch checkout of the ground system.	T209-3.01.01
S-DSS-20470	The STMGT CI shall provide the capability to retrieve simulated EOS instrument data to support pre-launch checkout of the ground system.	T209-3.01.01
S-DSS-20550	The STMGT CI shall provide operations staff a mechanism to display/view storage system operating parameters which affect storage system performance.	T209-2.04.01
S-DSS-20560	The STMGT CI shall provide operations staff a mechanism to display/view storage system operating parameters which affect storage system scheduling.	T209-2.04.01
S-DSS-20570	The STMGT CI shall provide operations staff the capability to change storage system operating parameters which affect storage system performance.	T209-2.04.01
S-DSS-20580	The STMGT CI shall provide operations staff the capability to change storage system operating parameters which affect storage system scheduling.	T209-2.04.01
S-DSS-20610	The STMGT CI shall provide the capability to archive multiple versions of Data Granules.	T209-2.01.04
S-DSS-20720	The STMGT CI shall provide a mechanism to mark data for deletion. The mechanism shall be based on selection of max time to store data before it's deleted from storage. It shall also mark earlier versions when multiple versions have been archived.	T209-2.01.03
S-DSS-20730	The STMGT CI shall provide a mechanism to automatically delete archived data which has been marked for deletion.	T209-2.01.03
S-DSS-20750	For data retrieval requests for L0 data from EDOS, STMGT CI shall satisfy such requests with appropriate L0 or L1A data. Note: These instruments provide L0 data, CERES, LIS, ASTER, MISR, MODIS, MOPITT; these provide L1A data, LIS, PR, TMI, VIRS.	T209-3.01.01
S-DSS-20800	The STMGT CI shall use operator selectable criteria to determine the physical storage device that data types will be stored in. This criteria shall consider: current store and retrieval activity, number of storage devices, type of data to be stored.	T209-3.09.03
S-DSS-20810	The STMGT CI shall provide operations staff the capability to manually alter the criteria that determines the physical storage device that data sets will be stored in.	T209-2.04.10
S-DSS-20820	The STMGT CI shall provide operations staff the capability to alter the criteria that determines removal of archive media from storage devices to allow insertion of new or different archive media in the storage device.	T209-2.04.02

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<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DSS-20830	In determining the archive media to be removed, the STMGT CI shall ensure that the criteria consider the media's capacity for storing additional data, the last time data was accessed on the media and whether the media is currently in use to store or retrieve data.	T209-2.04.02
S-DSS-20840	The STMGT CI shall report information on the storage system. Information reported shall include file access time, file accesses per hour, size of files stored onto archive media, size of files retrieved from archive media, amount of storage allocated.	T209-2.04.03
S-DSS-20850	The STMGT CI shall collect information on the storage system, i.e. avg access time, avg number of accesses per hour, mean request inter-arrival time, avg file size stored, avg file size retrieved and avg file residency time on disk.	T209-2.04.03
S-DSS-20860	The STMGT CI shall provide a mechanism to monitor the performance of the ECS archival storage system.	T209-2.04.04
S-DSS-20870	The STMGT CI shall provide operations staff the capability to view/display performance information on the storage system.	T209-2.04.04
S-DSS-21130	The STMGT CI shall provide estimates of staging device time delays for subsetted Data Requests.	T209-3.01.02
S-DSS-21140	The STMGT CI shall provide estimates of staging device time delays for subsampled Data Requests.	T209-3.01.02
S-DSS-21150	The STMGT CI shall provide estimates of staging device time delays for summary Data Requests.	T209-3.01.02
S-DSS-21240	The STMGT CI shall provide operations staff a mechanism to display/view storage system utilization by ECS element.	T209-2.04.05
S-DSS-21250	The STMGT CI shall provide operations staff a mechanism to display/view storage system performance by ECS element.	T209-2.04.05
S-DSS-21260	The STMGT CI shall provide operations staff a mechanism to display/view storage system cost by ECS element.	T209-3.03.13
S-DSS-21280	The SDSRV CI shall provide application programming interfaces (APIs) to support Insert Requests.	T209-3.09.04
S-DSS-21290	The STMGT CI shall provide application programming interfaces (APIs) to support Retrieval Requests.	T209-3.01.04
S-DSS-21300	The STMGT CI shall provide application programming interfaces (APIs) to support Status Requests related to previous Insert Requests.	T209-3.09.04
S-DSS-21310	The STMGT CI shall provide application programming interfaces (APIs) to support Status Requests related to previous Retrieval Requests.	T209-3.01.04
S-DSS-21320	The STMGT CI shall provide the capability to estimate time delays for data retrievals due to contention for hardware resources.	T209-3.01.02
S-DSS-21340	The STMGT CI shall provide data to support administrative requests for Accounting Management Data.	T209-3.03.02
S-DSS-21350	The STMGT CI shall collect Accounting Management Data as defined in Appendix K.	T209-3.03.01

**Table B-1. Requirements Traceability Matrix (64 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-DSS-21430	The STMGT CI shall provide operations staff a mechanism to delete records from the File Directory.	T209-2.01.01
S-DSS-21610	The MSFC DAAC Science Management within the Data Server shall make TSDIS original standard products (Level 1B-3) eligible for deletion after 6 months	T209-2.01.03
S-DSS-30190	The DDIST CI shall record the cost of the shipping and handling of the media associated with each Media Distribution request.	T209-3.02.02
S-DSS-30200	The DDIST CI shall record the network cost of data transmission, the User Identifier and the Request Identifier.	T209-3.02.03
S-DSS-30210	The DDIST CI shall record the cost of CPU intensive operations performed on data to be distributed. Such operations include compression/decompression and reformatting.	T209-3.02.04
S-DSS-30220	The DDIST CI shall record the cost of archive storage for data to be distributed based on distribution size.	T209-3.02.05
S-DSS-30230	The DDIST CI shall provide the capability to report the estimated media utilization to the SDSRV CI.	T209-3.03.05
S-DSS-30240	The DDIST CI shall provide the capability to report the actual media utilization to the SDSRV CI.	T209-3.03.05
S-DSS-30296	The DDIST CI shall alert SMC when electronic transmission problems are encountered.	T209-3.02.09
S-DSS-30450	The DDIST CI shall provide the capability to distribute on 4mm tape.	T209-2.03.01
S-DSS-30460	The DDIST CI shall provide the capability to distribute on 3480/3490 tape.	T209-2.03.02
S-DSS-30482	The DDIST CI shall provide the capability to support additional data distribution formats and conversion software.	T209-3.02.07
S-DSS-30620	The DDIST CI shall provide the capability to distribute documents electronically via FAX transmissions.	T209-2.03.04
S-DSS-30770	The DDIST CI shall provide an applications program interface to submit Distribution Requests, obtain Request Status for Distribution Requests, and retrieve a list of Distribution Requests submitted.	T209-3.02.06
S-DSS-30795	For physical media distributions, the DDIST CI shall record the cost of the media to be used for accounting.	T209-2.03.07
S-INS-00355	The INGST CI shall accept an ingest Suspension Request from authorized operations staff to suspend ongoing ingest request processing for a specified ingest Request Identifier, to suspend all ongoing ingest request processing from a specified External Data Provider, or to suspend all ongoing ingest request processing.	T203-3.02.01
S-INS-00357	The INGST CI shall accept an ingest Resumption Request from authorized operations staff to resume ongoing ingest request processing for a specified ingest Request Identifier, to resume all ongoing ingest request processing from a specified External Data Provider, or to resume all ongoing ingest request processing.	T203-3.02.02
S-INS-00363	The INGST CI shall authenticate the User Identifier of operations staff submitting an ingest Suspension Request or ingest Resumption Request.	T203-3.02.01

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<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-INS-00365	The INGST CI shall accept an ingest Suspension Request from authorized applications to suspend ongoing ingest request processing for a specified Request Identifier, to suspend all ongoing ingest request processing from a specified External Data Provider, or to suspend all ongoing ingest request processing.	T203-3.02.04
S-INS-00367	The INGST CI shall accept an ingest Resumption Request from authorized applications to resume ongoing ingest request processing for a specified Request Identifier, to resume all ongoing ingest request processing from a specified External Data Provider, or to resume all ongoing ingest request processing.	T203-3.02.05
S-INS-00370	The INGST CI shall authenticate the User Identifier of an application submitting an ingest Suspension Request or ingest Resumption Request.	T203-3.02.05
S-INS-00393	The INGST CI shall report status on ingest Suspension Requests to the requesting operations staff and to the Error Log for the following:#a._Unauthorized requester #b._Invalid ingest Request Identifier #c._Unable to suspend specified Ingest Request(s)	T203-3.02.03
S-INS-00394	The INGST CI shall report status on ingest Resumption Requests to the requesting operations staff and to the Error Log for the following:	T203-3.02.03
S-INS-00397	The INGST CI shall report status on ingest Suspension Requests to the requesting application and to the Error Log for the following:#a._Unauthorized requester #b._Invalid ingest Request Identifier #c._Unable to suspend specified Ingest Request(s)	T203-3.02.06
S-INS-00398	The INGST CI shall report status on ingest Resumption Requests to the requesting application and to the Error Log for the following:#a._Unauthorized requester#b._Invalid ingest Request Identifier#	T203-3.02.05
S-INS-00401	The INGST CI shall convert ingested data into a form accepted by the SDSRV CI/DDSRV CI, for the following data types: TBD	T203-4.01.01 T203-4.01.02
S-INS-00402	The INGST CI shall reformat ingested data into a form accepted by the SDSRV CI/DDSRV CI, as needed.	T203-4.01.05 T203-4.01.06
S-INS-00600	The INGST CI shall ingest Data, provided by the EDOS, from physical media at the GSFC DAAC as a backup transfer mechanism.	T203-2.01.01
S-INS-00610	The INGST CI shall ingest Data, provided by the EDOS, from physical media at the LaRC DAAC as a backup transfer mechanism.	T203-2.01.02
S-INS-00645	The INGST CI shall ingest Data, provided by the NMC, from the LAN into the GSFC DAAC using a file transfer protocol.	T203-1.01.01
S-INS-00650	The INGST CI shall ingest data, provided by the DAO, from the ESN into the EDC DAAC using a file transfer protocol.	T203-1.01.14
S-INS-00682	The INGST CI shall ingest Data, provided by an SCF, from the LAN into the GSFC DAAC using a file transfer protocol.	T203-1.01.02
S-INS-00684	The INGST CI shall ingest Data, provided by an SCF, from the LAN into the JPL DAAC using a file transfer protocol.	T203-1.01.03

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<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-INS-00730	The INGST CI shall ingest data, provided by the FDF, from the ESN into the GSFC DAAC using a file transfer protocol.	T203-1.01.15
S-INS-00785	The INGST CI shall ingest Data, provided by the Landsat 7 Image Assessment System (IAS), from the LAN into the EDC DAAC using a file transfer protocol.	T203-2.01.01
S-INS-00787	The INGST CI shall ingest Data, provided by the Landsat 7 International International Ground Systems (IGSs), from the EDC DAAC on TBD media from the following IGSs: a. TBD	T203-1.01.04
S-INS-00790	The INGST CI shall ingest data, received on physical media from the ASTER GDS, into the EDC DAAC.	T203-2.01.03
S-INS-00842	The INGST CI shall ingest Data, provided by RADARSAT, into the ASF DAAC by TBD means.	T203-1.01.05
S-INS-00844	The INGST CI shall ingest Data, provided by RADAR-ALT, into the JPL DAAC by TBD means.	T203-1.01.06
S-INS-00846	The INGST CI shall ingest Data, provided by ERS-1 and ERS-2, into the ASF DAAC by TBD means.	T203-1.01.07
S-INS-00848	The INGST CI shall ingest Data, provided by JERS-1, into the ASF DAAC by TBD means.	T203-1.01.08
S-INS-00850	The INGST CI shall ingest Data, provided by SAGE III, into the LaRC DAAC by TBD means.	T203-1.01.09
S-INS-00852	The INGST CI shall ingest Data, provided by ACRIM, into the TBD DAAC by TBD means.	T203-1.01.10
S-INS-00854	The INGST CI shall ingest Data, provided by the ASF Receiving Ground Station (RGS) via a network interface using a file transfer protocol.	T203-1.01.11
S-INS-00856	The INGST CI shall ingest Data, provided by the ASF SAR Processing System (SPS) via a network interface using a file transfer protocol.	T203-1.01.12 T203-1.01.13
S-INS-00900	The INGST CI at the GSFC DAAC shall be capable of 200 percent expansion in throughput without architecture or design change.	B203.01.05
S-INS-00910	The INGST CI at the LaRC DAAC shall be capable of 200 percent expansion in throughput without architecture or design change.	B203.01.06
S-INS-00920	The INGST CI at the MSFC DAAC shall be capable of 200 percent expansion in throughput without architecture or design change.	B203.01.07
S-INS-00925	The INGST CI at the EDC DAAC shall be capable of 200 percent expansion in throughput without architecture or design change.	B203.01.01
S-INS-00927	The INGST CI at the NSIDC DAAC shall be capable of 200 percent expansion in throughput without architecture or design change.	B203.01.02
S-INS-00929	The INGST CI at the ASF DAAC shall be capable of 200 percent expansion in throughput without architecture or design change.	B203.01.03
S-INS-00930	The INGST CI at the JPL DAAC shall be capable of 200 percent expansion in throughput without architecture or design change.	B203.01.04

**Table B-1. Requirements Traceability Matrix (67 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-INS-02000	The INGST CI shall interactively accept Document Scanning/Digitizing Requests from authorized operations staff for hard copy media to be ingested.	T203-2.02.01
S-INS-02020	The INGST CI shall verify that the External Data Provider specified in a Document Scanning/Digitizing Request is an authorized provider of hard copy media to be ingested.	T203-2.02.01
S-INS-02030	The INGST CI shall automatically determine the data volume for each scanned or digitized file resulting from an interactively entered Document Scanning/Digitizing Request.	T203-2.02.01
S-INS-02040	The INGST CI shall report to the Error Log an unauthorized attempt to interactively request ingest of hard copy media.	T203-2.02.02
S-INS-02050	The INGST CI shall report Document Scanning/Digitizing Request status to the submitting operations staff for the following:#a._Hard copy scanning/digitizing failure #b._Invalid Data Type Identifier#c._Missing required metadata#d._Metadata parameters out of range #e._Failure to archive data #f._Unauthorized hard copy media provider #g._Unauthorized operations staff #h._Successful archive of data###	T203-2.02.02
S-INS-60660	The ICLHW CI shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements.	T203-3.01.02
S-INS-60711	The ICLHW CI shall contain the storage and interface resources to support the ingest functions for the SDPF interface at GSFC.	B203.03.01
S-INS-60712	The ICLHW CI shall contain the storage and interface resources to support the ingest functions for the SDPF interface at MSFC.	B203.03.02
S-INS-60715	The ICLHW CI shall contain the storage and interface resources to support the ingest functions for the AM-1 mission at GSFC.	B203.03.03
S-INS-60716	The ICLHW CI shall contain the storage and interface resources to support the ingest functions for the AM-1 mission at LaRC.	B203.03.04
S-INS-60721	The ICLHW CI at the GSFC DAAC shall be sized to support TBD bytes/second at the electronic data ingest interface to support the EOS AM-1 mission.	B203.04.01
S-INS-60726	The ICLHW CI at the GSFC DAAC shall be sized to support TBD bytes/second at the electronic data ingest interface to support the EOS AM-1 mission.	B203.04.02
S-INS-60727	The ICLHW CI at the LaRC DAAC shall be sized to support TBD bytes/second at the electronic data ingest interface with SAGE III.	B203.04.03
S-INS-60728	The ICLHW CI at the LaRC DAAC shall be sized to support TBD bytes/second at the electronic data ingest interface with ACRIM.	B203.04.04
S-INS-60733	The ICLHW CI at the EDC DAAC shall be sized to support TBD bytes/second at the electronic data ingest interface with the Landsat 7 Processing System.	B203.04.05

**Table B-1. Requirements Traceability Matrix (68 of 69)**

<b>L4 Requirement Id</b>	<b>Requirement Text</b>	<b>Testcase Id</b>
S-INS-60736	The ICLHW CI at the GSFC DAAC shall be sized to store and maintain the volume of EDOS data for a 1-year period of time as specified in Appendix E (Section E.1, Table E-1 and Section E.2 Table E-2) of the Release B 304 document.	B203.04.01
S-INS-60741	The ICLHW CI at the LaRC DAAC shall be sized to store and maintain the volume of EDOS data for a 1-year period of time as specified in Appendix E (Section E.1, Table E-1 and Section E.2 Table E-2) of the Release B 304 document.	B203.04.02
S-INS-60751	The ICLHW CI at the GSFC DAAC shall be sized to support TBD bytes/second at the electronic data ingest interface to support the EOS AM-1 mission.	B203.04.01
S-INS-60756	The ICLHW CI at the GSFC DAAC shall be sized to support TBD bytes/second at the electronic data ingest interface to support the EOS AM-1 mission.	B203.04.02
S-INS-60770	The ICLHW CI at the EDC DAAC shall be sized to temporarily store the volume of Landsat 7 data as specified in Appendix E (Section E.1, Table E-1 and Section E.2 Table E-2) of the Release B 304 document.	B203.04.07
S-INS-61110	The ICLHW CI at the ASF DAAC shall be capable of ingesting data from RADAR-ALT at the nominal daily rate specified in Appendix E (Section E.1, Table E-1 and Section E.2 Table E-2) of the Release B 304 document.	B203.02.01
S-INS-61120	The ICLHW CI at the ASF DAAC shall be capable of ingesting data from ERS-1 and ERS-2 at the nominal daily rate specified in Appendix E (Section E.1, Table E-1 and Section E.2 Table E-2) of the Release B 304 document.	B203.02.03
S-INS-61130	The ICLHW CI at the ASF DAAC shall be capable of ingesting data from JERS-1 at the nominal daily rate specified in Appendix E (Section E.1, Table E-1 and Section E.2 Table E-2) of the Release B 304 document.	B203.02.05
S-INS-61140	The ICLHW CI at the LaRC DAAC shall be capable of ingesting data from SAGE III at the nominal daily rate specified in Appendix E (Section E.1, Table E-1 and Section E.2 Table E-2) of the Release B 304 document.	B203.02.08
S-INS-61150	The ICLHW CI at the ASF DAAC shall be capable of ingesting data from the ASF RGS at the nominal daily rate specified in Appendix E (Section E.1, Table E-1 and Section E.2 Table E-2) of the Release B 304 document.	B203.02.12
S-IOS-00590	The ADSRV CI shall provide Advertisements that describe Science Processing Library holdings.	T216-2.01.01
S-IOS-00620	The ADSRV CI shall support of browsing Advertisements and linking to data Dictionary definitions of terms	T216-2.01.02
S-IOS-00630	The ADSRV CI shall provide a capability to link advertising data to data dictionary definitions of terms	T216-2.01.03
S-IOS-00710	The ADSRV CI shall accept Subscription Requests as defined in Appendix A.	T216-1.02.06

**Table B-1. Requirements Traceability Matrix (69 of 69)**

S-IOS-00760	The ADSRV CI shall provide Notifications in response to Subscription Events.	T216-1.02.01
S-IOS-00800	The ADSRV CI shall provide an application program interface for the submission of Service Requests.	T216-1.03.08
S-IOS-00810	The ADSRV CI shall provide an application program interface for the submission of requests for administrative services.	T216-1.03.09

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## Appendix C Regression/Recombinant Test and Methodology

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This appendix provides the regression and recombinant test plan to ensure that the delivered functions and interfaces are still operational after each turnover.

Regression/recombinant testing is supplemental testing performed at any time upon any thread or build during Release B I&T testing to ensure that existing software is not adversely affected by modified or new software. Release B I&T members are responsible for planning, documenting, executing and reporting all regression/recombinant testing. Automated test tools are used whenever possible to conduct regression testing by the Release B I&T organization. This ensures that regression tests duplicate initial test procedures. For Release B the following changes will result in regression/recombinant testing: software changes, hardware changes, operational enhancements, integration of two or more builds, new versions delivered after the unit level testing. In addition, regression testing also occurs due to any changes or enhancements to incremental software due to Evaluation Package evaluation results. Discrepancies resulting from any other level of testing (i.e., System Test, Acceptance Test) which results in modifications at the unit level, will be regression tested at the segment and or system levels by the Release B I&T organization. The Release B I&T members will analyze and determine the extent of regression/recombinant testing required. Release A test scenarios and test cases will be selected from the ECS Overall System Acceptance Test Plan for Release A (409-CD-001-003), and the System Integration and Test Plan of TRMM (Rel A) for the ECS Project - Volume 2 (402-CD-002-002) documents.

### C.1 Release A Test Cases Reuse for Regression Test

The table below identify the release A test cases that will be reused for regression test during the release B I&T. These test cases are selected based on the list of L3 RBR requirements that are implemented across releases IR1, A, and B.

**Table C-1. Regression Test Table (1 of 10)**

<b>Build/Thread ID</b>	<b>Test Case ID</b>	<b>Build/Thread/Sequence Title</b>	<b>Test Case Title</b>	<b>Build Assignment</b>
B10.00.00	5.1.1.6	System Integration Build 1		
B10.01.00	5.1.1.6.2.1	Ingest and Algorithm Integration w/ Resource Util	All (6 Test Cases)	ingest (TC 1-5)
B10.02.00	5.1.1.6.2.2	Enhance System Access and CSMS Security	All (10 Test Cases)	security
B11.00.00	5.1.1.10	System Integration Build 2		
B11.01.01	5.1.1.10.2.1	Accessibility and Registration	Bulletin Board Access	network services, security
B11.01.02	5.1.1.10.2.1	Accessibility and Registration	Direct Internet Access	network services
B11.01.03	5.1.1.10.2.1	Accessibility and Registration	TCP/IP Access	network services
B11.01.04	5.1.1.10.2.1	Accessibility and Registration	GOSIP Access	network services
B11.08.04	5.1.1.10.2.8	User Interface	File Transfer	client
B11.08.05	5.1.1.10.2.8	User Interface	Mail Services	client, network services
B11.09.01	5.1.1.10.2.9	System Performance	IMS Interface to DAAC Availability	network svcs
B11.09.02	5.1.1.10.2.9	System Performance	Info Searches on ECS Dir	search
B11.09.03	5.1.1.10.2.9	System Performance	Info Searches on Local Data Holding	search
B12.00.00	5.1.1.13	System Integration Build 3		
B12.01.00	5.1.1.13.2.1	System Accessibility and Accountability	All (3 Test Cases)	network svcs
B12.02.00	5.1.1.13.2.2	Data Product Generation		product support
B12.02.01	5.1.1.13.2.2	Data Product Generation	TRMM Ancillary Preprocessing and Ingest	ingest/ product generation
B12.02.02	5.1.1.13.2.2	Data Product Generation	Process Plan Creation/Queue Loading	product support
B12.02.06	5.1.1.13.2.2	Data Product Generation	Data Backup Availability	product support
B12.02.07	5.1.1.13.2.2	Data Product Generation	Machine Backup Availability	product support
B12.02.08	5.1.1.13.2.2	Data Product Generation	Reprocessing Plan Generation	product support
B12.03.00	5.1.1.13.2.3	On Demand Processing		product generation
B12.04.00	5.1.1.13.2.4	Quality Assurance Process		product support/gen

**Table C-1. Regression Test Table (2 of 10)**

<b>Build/Thread ID</b>	<b>Test Case ID</b>	<b>Build/Thread/Sequence Title</b>	<b>Test Case Title</b>	<b>Build Assignment</b>
B12.04.02	5.1.1.13.2.4	Quality Assurance Process	Product QA Update	product support/gen
B13.00.00	5.1.1.16	System Integration Build 4		
B13.01.01	5.1.1.16.2.1	Data Access	User Registration	client
B13.01.02	5.1.1.16.2.1	Data Access	Data Access Privileges	data access
B13.02.02	5.1.1.16.2.2	Data Searching	Search Services Execution	search
B13.02.03	5.1.1.16.2.2	Data Searching	Search Services Faults	search
B13.03.01	5.1.1.16.2.3	Product Generation	Process Plan Creation	product support
B13.03.04	5.1.1.16.2.3	Product Generation	Resource Fault Detection	product support
B13.03.05	5.1.1.16.2.3	Product Generation	Distribution Request	data server/ product gen
B13.04.02	5.1.1.16.2.4	Product Orders	Product Order	data server/ product support
B13.04.03	5.1.1.16.2.4	Product Orders	Product Order Fault Detection	data server/ product support
B13.05.01	5.1.1.16.2.5	Network Management	Monitor and Control	newtork svcs/security
B15.00.00	5.2.1	TRMM (Rel A) Build		
B15.01.00	5.2.1.2.1	Spacecraft Scheduling, Commanding and Monitoring		product support
B15.02.00	5.2.1.2.2	Concurrent System Activity		performance
B15.03.00	5.2.1.2.3	Supporting System Faults		fault management
B15.04.00	5.2.1.2.4	SMC Directives and Data Availability Schedules		product support
B15.05.00	5.2.1.2.5	Supporting Data Analysis/Algorithm Development		product support
B15.06.00	5.2.1.2.6	Receipt of Various Types of Data - System Notify		ingest/data server
B15.06.01	5.2.1.2.6	Receipt of Various Types of Data - System Notify	QA'd Product Metadata	ingest
B15.07.00	5.2.1.2.7	Receipt of FDF Data - AM-1 Early Interface		ingest
B15.09.01	5.2.1.2.9	Gathering Statistical Data	Storage Media Statistics	ingest/data server
B15.10.00	5.2.1.2.10	Distributing Various Types of Info/Data		
B15.11.00	5.2.1.2.11	System Analysis and Inspections		
B15.11.01	5.2.1.2.11	System Analysis and Inspections	Growth, Expansion, and Testing	resource scheduling

**Table C-1. Regression Test Table (3 of 10)**

<b>Build/Thread ID</b>	<b>Test Case ID</b>	<b>Build/Thread/Sequence Title</b>	<b>Test Case Title</b>	<b>Build Assignment</b>
B15.11.02	5.2.1.2.11	System Analysis and Inspections	System Shutdown/Startup	mode management
B15.11.03	5.2.1.2.11	System Analysis and Inspections	Performance Standards	performance mngt
B15.11.04	5.2.1.2.11	System Analysis and Inspections	Reliability Predictions	performance mngt
B15.12.00	5.2.1.2.12	System/Data Recovery		performance mngt
T10-01.04.00	5.1.1.1.2.4	Metadata Validation and Transaction Status		ingest/product support
T10-01.05.00	5.1.1.1.2.5	Ingesting Ancillary/Calibration Data		ingest
T10-02.00.00	5.1.1.2	Enhanced Algorithm Integration & Test Thread		TBD
T10-02.01.00	5.1.1.2.2.1	Regression Test IR1 ALG I&T		
T10-02.01.01	5.1.1.2.2.1	Regression Test IR1 ALG I&T	Successful Science SW Delivery Package	
T10-02.01.02	5.1.1.2.2.1	Regression Test IR1 ALG I&T	Algorithm Configuration Management	
T10-02.01.03	5.1.1.2.2.1	Regression Test IR1 ALG I&T	Algorithm in compliance w/ ECS standard	
T10-02.01.04	5.1.1.2.2.1	Regression Test IR1 ALG I&T	Success cmpl using SCF ver of PGS Tlkt	
T10-02.01.05	5.1.1.2.2.1	Regression Test IR1 ALG I&T	Suc cmpl using DAAC ver of PGS Tlkt	
T10-02.01.06	5.1.1.2.2.1	Regression Test IR1 ALG I&T	Successful scheduling of algorithm	
T10-02.01.07	5.1.1.2.2.1	Regression Test IR1 ALG I&T	Successful comparison	
T10-02.01.08	5.1.1.2.2.1	Regression Test IR1 ALG I&T	Successful transfer	
T10-02.02.00	5.1.1.2.2.2	Code Analysis		
T10-02.03.00	5.1.1.2.2.3	Algorithm Performance Monitoring		
T10-02.04.00	5.1.1.2.2.4	Algorithm I&T QA Process		
T10-03.04.02	5.1.1.3.2.4	Resolution of Resource Conflicts	Reprocess a Request	product support
T10-03.05.00	5.1.1.3.2.5	Interface Testing with CSMS Services		system mngt
T10-04.00.00	5.1.1.4	Enhanced System Access Thread		network services
T10-04.01.00	5.1.1.4.2.1	Logon/Logoff		client

**Table C-1. Regression Test Table (4 of 10)**

<b>Build/Thread ID</b>	<b>Test Case ID</b>	<b>Build/Thread/Sequence Title</b>	<b>Test Case Title</b>	<b>Build Assignment</b>
T10-04.01.02	5.1.1.4.2.1	Logon/Logoff	Remote Logon - Telnet	client
T10-04.03.00	5.1.1.4.2.3	Network Communication		network services
T10-04.04.00	5.1.1.4.2.4	V0 Network Access		network services
T10-04.05.00	5.1.1.4.2.5	Use of Office Automation Tools		ILS Mgt.
T10-04.06.00	5.1.1.4.2.6	Accessing Training Materials		client, ILS Mgt.
T10-05.01.00	5.1.1.5.2.1	Discretionary Access Control		
T10-05.01.09	5.1.1.5.2.1	Discretionary Access Control	Define Recovery Procedures	
T10-05.02.08	5.1.1.5.2.2	Validating Access/Privileges	User Registration - Existing Profile	client
T10-05.04.07	5.1.1.5.2.4	Network Security	Ver Admin Ability to Del a Dir Entry	security
T10-05.06.03	5.1.1.5.2.6	Security Risk and Compromise	Ver Sys Abort&Rcvry Maint Data Integrity	security
T10-05.06.05	5.1.1.5.2.6	Security Risk and Compromise	Ver Sch Shtdwn Handled&Security Maint	security
T11-01.00.00	5.1.1.7	Client Services Thread		client
T11-01.01.02	5.1.1.7.2.1	User Registration	No Profile Information	client
T11-01.04.00	5.1.1.7.2.4	Data Visualization Cap Using EOSView		client
T11-01.05.00	5.1.1.7.2.5	Toolkit Interfaces		client
T11-01.05.04	5.1.1.7.2.5	Toolkit Interfaces	Supporting DAAC Data Visual Utilities	client
T11-02.00.00	5.1.1.8	Search Services Thread		search
T11-02.02.00	5.1.1.8.2.2	Guide search		search
T11-03.04.00	5.1.1.9.2.4	Accessing Info that exists in Data Dictionary		data access
T11-03.08.00	5.1.1.9.2.8	Accessing Top Levels of Data Server		data access
T12-01.01.00	5.1.1.11.2.1	Data Availability Schedule		data access
T12-01.02.01	5.1.1.11.2.2	Process Profile Manipulation	Process Profile Creation	data access
T12-01.02.03	5.1.1.11.2.2	Process Profile Manipulation	Read a Process Profile	data access
T12-01.03.00	5.1.1.11.2.3	Production Strategies Manipulation		data access
T12-01.04.00	5.1.1.11.2.4	Data Dependency Rules		data access

**Table C-1. Regression Test Table (5 of 10)**

<b>Build/Thread ID</b>	<b>Test Case ID</b>	<b>Build/Thread/Sequence Title</b>	<b>Test Case Title</b>	<b>Build Assignment</b>
T12-01.05.00	5.1.1.11.2.5	Standard Processing Rules		data access
T12-01.06.00	5.1.1.11.2.6	Routine Processing Plan Generation		data access
T12-01.07.00	5.1.1.11.2.7	Auto Initiate Processing		product support
T12-01.08.00	5.1.1.11.2.8	On-Demand Processing Requests		product support
T12-01.09.00	5.1.1.11.2.9	On-Demand Status Requests		product support/gen
T12-01.09.01	5.1.1.11.2.9	On-Demand Status Requests	Valid Local On_Demand Stat Req	product support/gen
T12-01.09.03	5.1.1.11.2.9	On-Demand Status Requests	Valid Remote On_Demand Stat Req	product support/gen
T12-01.10.00	5.1.1.11.2.10	Reprocessing Requests		product support/gen
T12-01.11.00	5.1.1.11.2.11	Product Ordering		product support
T12-01.12.00	5.1.1.11.2.12	Processing Queue Manipulation		product support/gen
T12-02.01.00	5.1.1.12.2.1	Guide Documentation Population		data server
T12-02.02.00	5.1.1.12.2.2	Errors During Guide Documentation Population		data server
T12-02.03.00	5.1.1.12.2.3	Guide Data Population		data server
T12-02.03.02	5.1.1.12.2.3	Guide Data Population	Migrated V0 Data Population	data server
T12-02.03.03	5.1.1.12.2.3	Guide Data Population	TRMM Data Population	data server
T12-02.04.00	5.1.1.12.2.4	Guide Product and Instrument Population		data server
T12-02.05.00	5.1.1.12.2.5	Adding Datasets to the Directory		data server
T12-02.07.00	5.1.1.12.2.7	Initial TRMM/V0 Inventory Population		data server
T12-02.07.01	5.1.1.12.2.7	Initial TRMM/V0 Inventory Population	Add TRMM Data to Inventory	data server
T12-02.07.02	5.1.1.12.2.7	Initial TRMM/V0 Inventory Population	Add V0 Data to Inventory	data server
T12-02.08.00	5.1.1.12.2.8	Adding Products to the Inventory		data server
T12-02.09.00	5.1.1.12.2.9	Auto Insert of New Metadata		data server
T12-02.17.00	5.1.1.12.2.17	Archive Inventory Backup		data server
T12-02.18.00	5.1.1.12.2.18	Archive Data Backup		data server
T12-02.19.00	5.1.1.12.2.19	Archive Inventory Database Recovery		data server
T12-02.20.00	5.1.1.12.2.20	Archive Data Recovery		data server

**Table C-1. Regression Test Table (6 of 10)**

<b>Build/Thread ID</b>	<b>Test Case ID</b>	<b>Build/Thread/Sequence Title</b>	<b>Test Case Title</b>	<b>Build Assignment</b>
T12-02.22.00	5.1.1.12.2.22	Data/Product Retrieval for Electronic Distribution		data server
T12-02.22.08	5.1.1.12.2.22	Data/Product Retrieval for Electronic Distribution	Interface to Production Processing	data server/ product support
T12-02.22.09	5.1.1.12.2.22	Data/Product Retrieval for Electronic Distribution	Distribution Request Cancellation	data server
T12-02.22.11	5.1.1.12.2.22	Data/Product Retrieval for Electronic Distribution	Manual Override	data server
T12-02.23.00	5.1.1.12.2.23	Data Retrieval for Media Distribution		data server
T12-02.23.06	5.1.1.12.2.23	Data Retrieval for Media Distribution	Interface to Production Processing	data server/ product support
T12-02.23.07	5.1.1.12.2.23	Data Retrieval for Media Distribution	Distribution Request Cancellation	data server
T12-02.25.00	5.1.1.12.2.25	Supporting Product Generation		data server
T12-02.26.00	5.1.1.12.2.26	Supporting Data Archival		data server
T12-02.26.01	5.1.1.12.2.26	Supporting Data Archival	Archiving Production Data Sets	data server/ product gen
T12-02.26.02	5.1.1.12.2.26	Supporting Data Archival	Archiving Standard Products	data server/ product gen
T12-02.26.03	5.1.1.12.2.26	Supporting Data Archival	Archiving TRMM Data	data server
T12-02.26.04	5.1.1.12.2.26	Supporting Data Archival	Archiving V0 Data	data server
T13-01.01.02	5.1.1.14.2.1	Agent Services	Physical Device Services	Agents
T13-01.01.03	5.1.1.14.2.1	Agent Services	System Software Services	Agents
T13-01.01.05	5.1.1.14.2.1	Agent Services	Virus Checker	Agents
T13-01.02.01	5.1.1.14.2.2	System Monitoring	External Data Transfers	Sys. Secrty & Mon
T13-01.02.02	5.1.1.14.2.2	System Monitoring	External Data Transfers - Errors	Sys. Secrty & Mon
T13-01.02.03	5.1.1.14.2.2	System Monitoring	Internal Data Transfers	Sys. Secrty & Mon
T13-01.02.04	5.1.1.14.2.2	System Monitoring	Internal Data Transfers - Errors	Sys. Secrty & Mon
T13-01.02.06	5.1.1.14.2.2	System Monitoring	Network Configuration	Sys. Secrty & Mon
T13-01.02.07	5.1.1.14.2.2	System Monitoring	Policies and Procedures	Sys. Secrty & Mon
T13-01.02.08	5.1.1.14.2.2	System Monitoring	Event Monitoring	Sys. Secrty & Mon
T13-01.03.01	5.1.1.14.2.3	Fault Management	Local System Fault Detection	Fault Mgt.

**Table C-1. Regression Test Table (7 of 10)**

<b>Build/Thread ID</b>	<b>Test Case ID</b>	<b>Build/Thread/Sequence Title</b>	<b>Test Case Title</b>	<b>Build Assignment</b>
T13-01.03.02	5.1.1.14.2.3	Fault Management	Remote System Fault Detection	Fault Mgt.
T13-01.03.03	5.1.1.14.2.3	Fault Management	Network Fault Detection	Fault Mgt.
T13-01.03.04	5.1.1.14.2.3	Fault Management	Recovery Procedures	Fault Mgt.
T13-01.04.00	5.1.1.14.2.4	Performance Management		Perf Mgt.
T13-01.04.01	5.1.1.14.2.4	Performance Management	Network Performance	Perf Mgt.
T13-01.04.02	5.1.1.14.2.4	Performance Management	Network Trending	Perf Mgt.
T13-01.05.03	5.1.1.14.2.5	Enhanced Configuration Management	Process (Check-in) Modified Algorith to CM	CM
T13-01.05.04	5.1.1.14.2.5	Enhanced Configuration Management	Remote Software Distribution	CM
T13-01.05.05	5.1.1.14.2.5	Enhanced Configuration Management	License Administration	CM
T13-01.07.05	5.1.1.14.2.7	Schedule Management	System Enhancement Analysis	Resource Sched
T13-01.08.01	5.1.1.14.2.8	Report Generation Services	Fault Reports	Report Gen
T13-01.08.02	5.1.1.14.2.8	Report Generation Services	Performance Reports	Report Gen
T13-01.08.06	5.1.1.14.2.8	Report Generation Services	Virus Detection Reports	Report Gen
T13-01.08.07	5.1.1.14.2.8	Report Generation Services	Security Breach Reports	Report Gen
T13-01.08.12	5.1.1.14.2.8	Report Generation Services	Training Reports	Report Gen
T13-01.08.13	5.1.1.14.2.8	Report Generation Services	Archive Reports	Report Gen
T13-01.08.14	5.1.1.14.2.8	Report Generation Services	Configuration Status Reports	Report Gen
T13-01.08.15	5.1.1.14.2.8	Report Generation Services	Proposed Enhancement Reports	Report Gen
T13-01.08.16	5.1.1.14.2.8	Report Generation Services	User Recommendation Reports	Report Gen
T13-02.00.00	5.1.1.15	User Services Thread		
T13-02.01.00	5.1.1.15.2.1	Data/Product Data Access Privileges		data access
T13-02.02.00	5.1.1.15.2.2	Query for Non-existent Data/Product		data access
T13-02.03.00	5.1.1.15.2.3	User Access to ECS Components		data access
T13-02.03.05	5.1.1.15.2.3	User Access to ECS Components	Accessing the LIM	data access
T13-02.05.00	5.1.1.15.2.5	User Generation of Product Orders Requests		product support/ client/data server

**Table C-1. Regression Test Table (8 of 10)**

Build/Thread ID	Test Case ID	Build/Thread/Sequence Title	Test Case Title	Build Assignment
T13-02.05.03	5.1.1.15.2.5	User Generation of Product Orders Requests	Complete/Inaccurate Product Order	product support/client/data server
T13-02.06.00	5.1.1.15.2.6	Receiving Request/Order Acknowledgement		product support/client/data server
T15-01.01.01	5.1.1.17.2.1	VIRS Ingest	VIRS L0-L1 Data Ingest Initiation-Valida	ingest
T15-01.01.03	5.1.1.17.2.1	VIRS Ingest	VIRS Product Ingest Initiation-Validatio	ingest
T15-01.01.04	5.1.1.17.2.1	VIRS Ingest	VIRS Metadata Validation&Transaction Sta	ingest
T15-01.02.01	5.1.1.17.2.2	CERES Ingest	CERES L0-L1A Data Ingst Ini-Validation	ingest
T15-01.02.03	5.1.1.17.2.2	CERES Ingest	CRES Product Ingest Init-Validation	ingest
T15-01.02.04	5.1.1.17.2.2	CERES Ingest	CERES Metadata Validation&Transac Status	ingest
T15-01.03.01	5.1.1.17.2.3	LIS Ingest	LIS L0 Data Ingest Initiation-Validation	ingest
T15-01.03.03	5.1.1.17.2.3	LIS Ingest	LIS Product Ingest Initiation-Validation	ingest
T15-01.03.04	5.1.1.17.2.3	LIS Ingest	LIS Metadata Validation&TRansaction Stat	ingest
T15-01.04.01	5.1.1.17.2.4	PR Ingest	PR L0-L1 Data Ingest Initiation-Validati	ingest
T15-01.04.03	5.1.1.17.2.4	PR Ingest	PR Product Ingest Initiation-Validation	ingest
T15-01.04.04	5.1.1.17.2.4	PR Ingest	PR Metadata Validation&TransactionStat us	ingest
T15-01.05.01	5.1.1.17.2.5	TMI Ingest	TMI L0-L1 Data Ingest Initiation-Validat	ingest
T15-01.05.03	5.1.1.17.2.5	TMI Ingest	TMI Product Ingest Initiation-Validation	ingest
T15-01.05.04	5.1.1.17.2.5	TMI Ingest	TMI Metadata Validation&Transaction Stat	ingest
T15-01.07.01	5.1.1.17.2.7	Ingesting Ancillary/Calibration Data Sets	Ingesting&Archiving Ancillary Data Set	ingest

**Table C-1. Regression Test Table (9 of 10)**

<b>Build/Thread ID</b>	<b>Test Case ID</b>	<b>Build/Thread/Sequence Title</b>	<b>Test Case Title</b>	<b>Build Assignment</b>
T15-01.07.02	5.1.1.17.2.7	Ingesting Ancillary/Calibration Data Sets	Ingesting&Archiving Calibration Data Set	ingest
T15-01.08.01	5.1.1.17.2.8	Ingesting Algorithm's	Algorithm Ingest Initiation-Validation	ingest
T15-01.09.01	5.1.1.17.2.9	Ingesting Non-EOS Correlative Data	Non-EOS Corr Data Ingest Init-Validation	ingest
T15-01.09.03	5.1.1.17.2.9	Ingesting Non-EOS Correlative Data	Non-EOS Corr Product Ingest Init-Validat	ingest
T15-01.09.04	5.1.1.17.2.9	Ingesting Non-EOS Correlative Data	Non-EOS Corr Metadata Validation&Trans	ingest
T15-02.01.01	5.1.1.18.2.1	ASTER Ingest	ASTER L0 Data Ingst Init-Validation	ingest
T15-02.01.02	5.1.1.18.2.1	ASTER Ingest	ASTER L1A Data Ingst Init-Validation	ingest
T15-02.01.04	5.1.1.18.2.1	ASTER Ingest	ASTER Product Ingst Init-Validation	ingest
T15-02.01.05	5.1.1.18.2.1	ASTER Ingest	ASTER Metadata Validation&Trans Status	ingest
T15-02.02.01	5.1.1.18.2.2	MODIS Ingest	MODIS L0 Data Ingst Init-Validation	ingest
T15-02.02.02	5.1.1.18.2.2	MODIS Ingest	MODIS L1A Data Ingst Init-Validation	ingest
T15-02.02.03	5.1.1.18.2.2	MODIS Ingest	MODIS L1B Data Ingst Init-Validation	ingest
T15-02.02.04	5.1.1.18.2.2	MODIS Ingest	MODIS L0-L1A-L1B Data Ingst Init-Invad	ingest
T15-02.02.05	5.1.1.18.2.2	MODIS Ingest	MODIS Product Ingst Init-Validation	ingest
T15-02.02.06	5.1.1.18.2.2	MODIS Ingest	MODIS Metadata Validation&Trans Status	ingest
T15-02.03.01	5.1.1.18.2.3	MISR Ingest	MISR L0 Data Ingst Init-Validation	ingest
T15-02.03.02	5.1.1.18.2.3	MISR Ingest	MISR L1A Data Ingst Init-Validation	ingest
T15-02.03.03	5.1.1.18.2.3	MISR Ingest	MISR L1B Data Ingst Init-Validation	ingest
T15-02.03.04	5.1.1.18.2.3	MISR Ingest	MISR L0-L1A-L1B Data Ingst Init-Invalid	ingest
T15-02.03.05	5.1.1.18.2.3	MISR Ingest	MISR Product Ingst Init-Validation	ingest
T15-02.03.06	5.1.1.18.2.3	MISR Ingest	MISR Metedata Validation&Trans Status	ingest

**Table C-1. Regression Test Table (10 of 10)**

<b>Build/Thread ID</b>	<b>Test Case ID</b>	<b>Build/Thread/Sequence Title</b>	<b>Test Case Title</b>	<b>Build Assignment</b>
T15-02.04.01	5.1.1.18.2.4	MOPITT Ingest	MOPITT L0 Data Ingst Init-Validation	ingest
T15-02.04.02	5.1.1.18.2.4	MOPITT Ingest	MOPITT L1B Data Ingst Init-Validation	ingest
T15-02.04.04	5.1.1.18.2.4	MOPITT Ingest	MOPITT Product Ingst Init-Validation	ingest
T15-02.04.05	5.1.1.18.2.4	MOPITT Ingest	MOPITT Metadata Validation&Trans Status	ingest
T15-02.06.01	5.1.1.18.2.6	Ingesting Ancillary/Calibration Data Sets	Data Staging of Ancillary Data Set(s)	ingest
T15-02.06.02	5.1.1.18.2.6	Ingesting Ancillary/Calibration Data Sets	Data Staging of Calibration Data Set(s)	ingest
T15-02.07.01	5.1.1.18.2.7	Ingesting Algorithm's	Algorithm Ingest Initiation-Validation	ingest
T15-03.07.00	5.1.1.19.2.7	ECS/V0 User Access		security
T15-03.08.00	5.1.1.19.2.8	ECS(User)/V0 Information Management		V0 migration
T15-03.09.00	5.1.1.19.2.9	V0(User)/ECS Information Management		V0 migration
T15-03.10.00	5.1.1.19.2.10	V0/ECS Data Product Transfer		ingest
T15-04.01.00	5.1.1.20.2.1	Directory Metadata Exchange		
T15-04.02.00	5.1.1.20.2.2	New Data Availability		ingest/ data server
T15-04.04.00	5.1.1.20.2.4	ECS/NOAA User Access		security
T15-04.05.00	5.1.1.20.2.5	ECS (User)/NOAA Information Management		
T15-04.05.05	5.1.1.20.2.5	ECS (User)/NOAA Information Management	NOAA Data Order Status	product support
T15-04.06.00	5.1.1.20.2.6	NOAA (User)/ECS Information Management		
T15-04.06.05	5.1.1.20.2.6	NOAA (User)/ECS Information Management	ECS Data Order Status	product support
T15-04.07.00	5.1.1.20.2.7	ECS Data Product Request		product support

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## Appendix D Acronyms

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ACL	Access Control List
ACRIMSAT	Active Cavity Radiometer Irradiance Monitor Satellite
ADEOS	Advance Earth Observing
ADC	affiliated data center
AI&T	Algorithm Integration and Test
AIT	algorithm integration and test
AM-1	EOS AM Project spacecraft 1, morning spacecraft series -- ASTER, CERES, MISR, MODIS and MOPITT instruments
ANSI	American National Standards Institute
API	application program (or programming) interface
ASCII	American Standard Code for Information E change
ASF	Alaska SAR Facility (DAAC)
ASTER	Advanced Spaceborne Thermal Emission and Reflection
AT	acceptance test
ATT	acceptance test team
BONeS	block oriented network simulator
CASE	computer aided software engineering
CCR	configuration change request
CCSDS	Consultative Committee for Space Data Systems
CDR	Critical Design Review
CDRL	contract data requirements list
CERES	Clouds and Earth's Radiant Energy System
CI	configuration item
CIESIN	Consortium for International Earth Science Information Network
CM	configuration management
COTS	commercial off-the-shelf (hardware or software)
CPU	central processing unit
CSC	computer software component
CSCI	computer software configuration item

CSMS	Communications and Systems Management Segment (ECS)
CSR	consent to ship review
CSU	computer software unit
DAA	data availability acknowledgment
DAAC	Distributed Active Archive Center
DADS	Data Archive and Distribution System
DAN	data availability notice
DAR	data aquisition request
DAS	detailed activity schedule
DCN	document change notice
DDA	data delivery acknowledgment
DDICT	data dictionary
DDN	data delivery notice
DDTS	Distributed Defect Tracking System
DESKT	desktop (configuration item)
DID	data item description
DIM	distributed information manager
DIMGR	distributed information manager
DMO	data management organization
DNS	domain name services
DOTS	data ordering and tracking system (JPL)
DPR	Data Processing Request
DR	discrepancy report
e-mail	electronic mail
Early AM-1	EOS Morning Crossing (Descending) Mission
EAS	ECS Advertising Service
Ecom	EOS Communications (replaced by EBNet)
ECS	EOSDIS Core System
EDF	ECS Development Facility
EOC	EOS Operations Center
EOS	Earth Observing System

EOSDIS	Earth Observing System Data and Information System
ESDIS	Earth Science Data and Information System (GSFC)
ETM+	Enhanced Thematic Mapper Plus (Landsat 7)
ETR	Element Test Review
F&PRS	Functional and Performance Requirements Specification
FDDI	fiber distributed data interface
FOO	flight of opportunity
FOS	Flight Operations Segment (ECS)
ftp	file transfer protocol [12/15/94]
GSFC	Goddard Space Flight Center
GUI	graphic user interface
H/W	hardware
HIPPI	high performance parallel interface
HMI	human machine interface
HP	Hewlett Packard
HTML	HyperText Markup Language
HTTP	Hypertext Transport Protocol
HWCI	hardware configuration item
I&AT	Integration and Acceptance Test
I&T	integration and test
I&TT	Integration and Test Team
I/F	interface
IATO	Independent Acceptance Test Organization
ICD	interface control document
IDR	Incremental Design Review
INGST	ingest services
IR	interim release
IR-1	interim release-1
IRD	interface requirements document
IST	Instrument Support Terminal
IV&V	independent verification and validation

JPL	Jet Propulsion Laboratory (JPL)
L0-L4	Level 0 (zero) through Level 4
LAN	local area network
Landsat	Land Remote-Sensing Satellite
LaRC	Langley Research Center (DAAC)
LIS	Lightning Image Sensor
LOM	Logical Object Model
M&O	maintenance and operations
MISR	Multi-Angle Imaging SpectroRadiometer
MODIS	Moderate-Resolution Imaging Spectroradiometer
MOPITT	Measurements of Pollution in the Troposphere
MSFC	Marshall Space Flight Center
NASA	National Aeronautics and Space Administration
NCR	non-conformance report
NCRCA	Non-conformance Reporting and Corrective Action
NCSA	National Center for Supercomputer Applications
NSIDC	National Snow and Ice Data Center (DAAC)
NRCA	non-conformance reporting and corrective action
ORNL	Oak Ridge National Laboratory (DAAC)
PAIP	performance assurance implementation plan
PDR	Preliminary Design Review
PGE	product generation executable
PGS	Product Generation System
QA	quality assurance
R1	Release 1
RAID	redundant array of inexpensive disks
RIR	Release Initiation Review
RTE	Remote Terminal Emulator
RTM	requirements and traceability management
SAGE	Stratospheric Aerosols and Gas Equipment
SCDO	Science and Communications Development Office (ECS)

SCF	Science Computing Facility
SDPF	Sensor Data Processing Facility (GSFC)
SDPS	Science Data Processing Segment (ECS)
SDR	Software Design Review
SDR	System Design Review
SeaWiFS	Sea-Viewing Wide Field-of-View Sensor
SFDU	Standard Format Data Unit
SGI	Silicon Graphics International
SI&P	system integration and planning
SI&T	system integration and test
SITP	system integration test plan
SMF	status message tool
SRR	System Requirements Review
SUN	Sun MicroSystems
TBD	To Be Determined
TCP/IP	Transmission Control Protocol/Internet Protocol
TRMM	Tropical Rainfall Measuring Mission (joint US-Japan)
TRR	Test Readiness Review
TSDIS	TRMM Science Data and Information System
URL	universal reference location
V&V	verification and validation
WAIS	Wide Area Information Server
WWW	World-Wide Web
X.400	OSI standard for mail services
X.500	OSI standard for directory services

Note: for a complete listing of Acronyms for EOSDIS Core System (ECS) Project, see 152-TP-001-003.